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138. (Amended) The method of claim 96, wherein information contained in said television [programming] signal is [of a duration, wherein at least a portion of said duration includes] operative to communicate an offer of at least one of a product and a service.

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## II. REMARKS

### A. Introduction

Applicants have carefully reviewed the Office Action originally issued on April 6, 2000 and have made the foregoing amendments in response thereto.

#### 1. Claim Accounting

Claims 5-7, 10, 13-17, 21, 27, 29, 31, 35-38, 40, 43, 44-47, 52, 54-55, 57, 59, 61-63, 65, 67, 69-72, 74, 76-78, 83-86, 90-91, 96, 98-100, 106-112, 118, 124, 127-130 & 137-138 are amended. Claims 3-138 are pending in the application. Applicants present no new matter in the foregoing amendments. Applicants respectfully request approval and entry of this amendment.

#### 2. Summary of Office Action Rejections

The following summarizes the objections and rejections of the April 6, 2000 Office Action with respect to its corresponding paragraph numbers:

Paragraph 3. Claims 3-138 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Paragraph 4. Claims 3-138 that are directed to digital related processes and apparatus, are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way to enable one skilled in

the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Paragraph 5. Claims 3-138 that are directed to data, datum, and indicia and related processes and apparatus, are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Paragraph 6. Claims 3-138 are rejected under 35 U.S.C. § 112, first paragraph, because the best mode contemplated by the inventor has not been disclosed.

Paragraph 8. Claims 3-138 are rejected under 35 U.S.C. § 112, second paragraph, as failing to set forth the subject matter which Applicants regard as their invention.

Paragraph 9. Claims 3-138 using the terms having different descriptions from Applicants' 1987 specification and 1981 priority application, are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants' regard as their invention.

Paragraph 10. Claims 3-138 using the terms, *inter alia*, 'program' and 'programming' are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants' regard as their invention.

Paragraph 12. Claims 3-138 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Applicants' U.S. Pat. Nos. 4,694,490 and 4,704,725.

Paragraph 14. Claims 3-138 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants WO 89/02682.

Paragraph 15. Claims 3-138 that are directed to processes of controlling cable head end processes and monitoring of those processes and combined medium presentation, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Greenberg, U.S. Pat. No. 4,547,804 in view of Galumbeck et al., U.S. Pat. No. 4,725,886.



Paragraph 16. Claims 3-138 that are directed to, *inter alia*, processes of controlling broadcast subscriber stations, including decrypting, processing, storing, generation and monitoring to those processes and combined medium presentation, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jeffers et al., U.S. Pat. No. 4,739,510.

Paragraph 17. Claims 3-138 that are directed to, *inter alia*, processes of controlling cable head end processes and monitoring of those processes and combined medium presentation are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hazelwood et al., U.S. Pat. No. 4,025,851 in view of the publication "System and Apparatus for Automatic Monitoring Control of Broadcast Circuits" by Yaname et al. and Hetrich, Australian Patent No. 74,619.

Paragraph 18. Claims 3-138 that are directed to, *inter alia*, processes of controlling subscriber station processes and monitoring of those processes and of combined medium presentation and processes, are rejected under 35 U.S.C. § 103(a) as being unpatentable over either one of the common subject matter suggested by Campbell et al., (WO 81/02961, abandoned parent application no. 135,987, and U.S. Pat. No. 4,536,791), in view of at least one or more of: Breeze "Television Line 21 Encoded Information and It's Impact on Receiver Station Design"; Schnee, U.S. Pat. No. 4,290,142; and Zaboklicki, DE 2,904,891.

Paragraph 19. Claims 3-138 that are directed to, *inter alia*, either processes of controlling affiliate stations and processes and monitoring of those processes and combined medium presentation or processes of controlling subscriber stations and method and process for monitoring and providing combined medium presentations, that fall out each particular determining group members of the group of claims described in rejection above, the groups are rejected further in view of one or more of: Hazelwood et al., Yaname et al., Hetrich, Marsden, Young et al., "Journal of SMPTE" Oct. 1971, U.S. Pat. No. 3,761,888 to Flynn, U.S. Pat. No. 3,627,914 to Davis, Tunmann et al., U.K. Pat.

No. 959,374 to Germany, Byloff, Chiddix, Skilton, Schiller et al., Zettl, Vikene, U.S. Pat. No. 4,547,804 to Greenberg, Jeffers et al., Diederich, Campbell et al. (WO 81/02961, abandoned U.S. application no. 135,987, and U.S. Pat. No. 4,536,791), Kazama et al., Gosch, Stern, Breeze, Barlow, Millar, U.S. Pat. No. 4,725,886 to Galumbeck et al., "CBS/CCETT North American Broadcast Teletext Specification," Zaboklicki, U.S. Pat. No. 4,064,490 to Nagel, U.S. Pat. No. 4,251,691 to Kakiyara, Hedger et al., Anderson, Gunn, Gaucher, U.S. Pat. No. 4,290,142 to Schnee et al.

Paragraphs 20-21. All claims are subject by the Office to an administrative requirement based on the nonstatutory double patenting rejection based on a judicially created doctrine preventing the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees.

Paragraph 23. All pending claims are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over at least one or more of Applicants' issued patents, U.S. Pat. Nos.: 4,694,490; 4,704,725; 4,965,825; 5,109,414; 5,233,654; and 5,335,277, in view of at least one or more of: Marsden, Young et al., Flynn, Davis, Tunmann et al., Germany, Chiddix, Skilton, Schiller et al., Zettl, Vikene, Greenberg, Jeffers et al., Diederich, Campbell et al., Kazama et al., Gosch, Stern, Breeze, Barlow, Millar, Galumbeck, CBS/CETT North American Broadcast Teletext Specification," Zaboklicki, Nagel, Kakiyara, Hedger et al., Anderson, Gunn, Gaucher, and Schnee et al.

Paragraph 24. Rejects Applicants' basis for amending the typographical errors in the instant specification in two places on page 37.

Paragraph 25. The oath or declaration is defective under 37 C.F.R. § 1.67(a).

**B. Summary of Claim Amendments**

Claims 5-7, 10, 13-17, 21, 27, 29, 31, 35-38, 40, 43, 44-47, 52, 54-55, 57, 59, 61-63, 65, 67, 69-72, 74, 76-78, 83-86, 90-91, 96, 98-100, 106-112, 118, 124, 127-130 & 137-138 are amended.

Claim 5 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 6 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 7 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 10 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 13 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 14 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 15 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 16 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 17 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 21 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 27 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 29 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 31 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 35 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 36 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 37 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 38 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 40 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 43 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 44 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 45 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 46 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 47 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 52 has been amended to correct an antecedent basis problem.

Claim 54 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 55 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 57 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 59 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 61 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 62 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 63 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 65 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 67 has been amended to correct an antecedent basis problem.

Claim 69 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 70 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 71 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 72 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 74 has been amended to correct an antecedent basis problem.

Claim 76 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 77 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 78 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 83 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 84 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 85 has been amended to correct an antecedent basis problem.

Claim 86 has been amended to correct an antecedent basis problem.

Claim 90 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 91 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 96 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 98 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 99 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 100 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 106 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 107 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 108 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 109 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 110 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 111 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 112 has been amended to correct a typographical error.

Claim 118 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 124 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 127 has been amended to correct a typographical error.

Claim 128 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 129 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 130 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 137 has been amended to further clarify the claim language in view of Applicants' disclosure.

Claim 138 has been amended to further clarify the claim language in view of Applicants' disclosure.

**C. Statement of Patentable Novelty under 37 C.F.R. § 1.111**

Applicants submit that the independent claims as amended include the following limitations that are not found in the prior art. These limitations show patentable novelty in view of the state of the art disclosed by the references cited and the objections made.

**Claim 3:**

receiving a television signal containing television programming and  
communicating said television signal to a storage device;  
receiving a first instruct signal which is effective to instruct a computer at a user  
station to supplement or complete said television programming at an output device;  
selecting one of:  
(1) a time at which to communicate said first instruct signal; and  
(2) a location to which to communicate said first instruct signal;  
communicating said first instruct signal at said selected time or to said selected  
location; and  
storing said television signal and said instruct signal at said storage device.

**Claim 8:**

receiving and storing a program that contains video information;  
receiving an instruction, said instruction having effect to instruct a user station  
processor to generate or output information to supplement or complete said program;  
encoding said instruction, said step of encoding translating said instruction to a  
first control signal with said effect; and  
storing said first control signal in conjunction with said program.

**Claim 13:**



receiving a signal containing unit of mass medium programming and communicating said signal to a storage device;

receiving one or more instruct signals which are effective at a broadcast or cablecast transmitter station to communicate said signal to a transmitter and at a receiver station to store said signal or present information contained in said signal at an output device;

communicating said one or more instruct signals to said storage device; and

storing said one or more instruct signals at said storage device in association with said data file or unit of mass medium programming.

**Claim 18:**

an output device for outputting a mass medium programming presentation to a user;

a storage device operatively connected to said output device for storing and communicating mass medium program materials and one or more embedded instruct signals effective at the apparatus to supplement or complete said mass medium program materials based on stored data;

a detector operatively connected to said storage device for detecting said one or more embedded instruct signals; and

a processor operatively connected to said storage device, said output device, and said detector for processing data and controlling said storage device and said output device to output said mass medium program materials and the supplemental or completion information in accordance with said embedded instruct signals.

**Claim 19:**

a transmitter for transmitting a mass medium programming signal;

a storage device operatively connected to said transmitter for storing and outputting mass medium program materials and one or more instruct signals effective at a receiver station apparatus to supplement or complete said mass medium program materials based on stored data;

a detector operatively connected to said storage device for detecting said one or more instruct signals; and

a computer operatively connected to said storage device and said signal detector for controlling communication of said one or more instruct signals from said storage device to said transmitter.

**Claim 33:**

receiving a television signal containing first television programming and communicating said television signal and said first television programming to a storage device, said first television programming including audio;

receiving processor instructions which are capable of instructing a computer to present, with said first television programming at at least one output device, information to at least one of complete and supplement said first television programming;

selecting at least one of:

(1) at least one first time at which to communicate said processor instructions; and

(2) at least one first location to which to communicate said processor instructions;

communicating said processor instructions to said storage device based on said step of selecting; and

storing said television signal, said first television programming, and said processor instructions at said storage device concurrently.

**Claim 38:**

receiving a program that contains video information, said video information including at least three video images to be outputted at a subscriber station in a predetermined sequence;

receiving said processor instructions and at least one control instruction, said processor instructions capable of instructing a subscriber station apparatus to at least one of process and output subscriber specific information pertaining to said program, said at least one control instruction capable of causing said subscriber station apparatus to operate under control of said processor instructions;

commencing communication of said program to a storage device;

embedding said processor instructions and said at least one control instruction in a signal containing said program while said signal and said program are being communicated; and

storing said signal containing said program, said embedded processor instructions, and said embedded at least one control instruction in said storage device.

**Claim 43:**

receiving a signal containing at least one of data and mass medium programming to be outputted in said mass medium programming presentation and communicating said signal to a storage device;

receiving processor instructions which are capable of controlling a receiver station to present first information contained in said signal at an output device and to process a subscriber reaction to second information contained in said signal;

communicating said processor instructions to said storage device;

receiving at least one first instruction signal which is effective at one of a broadcast and a cablecast transmitter station to communicate said signal and said processor instructions to a transmitter;

communicating said at least one first instruction signal to said storage device; and  
storing said at least one first instruction signal and said processor instructions at  
said storage device in association with said at least one of said data and said mass  
medium programming.

**Claim 48:**

a transmitter for transmitting a mass medium programming signal comprising  
mass medium program materials, downloadable code, and at least one instruction signal;

a storage device operatively connected to said transmitter for storing and  
outputting said mass medium program materials, said downloadable code, and said at  
least one instruction signal;

a control signal detector operatively connected to said storage device for detecting  
said at least one instruction signal; and

a computer operatively connected to said storage device and said control signal  
detector for controlling communication of one of said mass medium program materials  
and said downloadable code on the basis of said at least one instruction signal.

**Claim 96:**

receiving a television signal containing television programming and  
communicating said television signal and said television programming to at least one  
storage device, said television programming comprising audio and a plurality of video  
images to be displayed in at least one predetermined sequence, said at least one  
predetermined sequence including full motion video;

receiving at least one first instruction signal which is capable of instructing a  
computer to conduct a procedure of at least one of inputting and responding to a  
subscriber reaction to said television programming;

selecting at least one of:

- (1) at least one time at which to communicate said first instruction signal; and
- (2) at least one first location to which to communicate said first instruction signal;

communicating said at least one first instruction signal at least one of (i) at said at least one selected time and (ii) to said selected at least one first location, based on said step of selecting; and

storing said television signal, said television programming, and said at least one first instruction signal at said at least one storage device concurrently.

**Claim 101:**

receiving and storing a program that contains video information, said video information including at least three full-screen video images to be outputted at a subscriber station in a predetermined sequence;

receiving at least one first instruction which is capable of instructing at least one processor at said subscriber station to at least one of input and respond to a viewer reaction to said program;

encoding said at least one first instruction, said step of encoding translating said at least one first instruction to a control signal, said control signal for directing said at least one processor at said subscriber station; and

storing said control signal from said step of encoding in conjunction with said program.

**Claim 106:**

receiving a signal containing one of a data file and mass medium programming and communicating said signal to a storage device;

receiving at least one first instruction signal which is capable of controlling a subscriber station to one of input and respond to a subscriber reaction to information

contained in said signal and to communicate at least a portion of said signal to a transmitter;

communicating said at least one first instruction signal to said storage device; and  
storing said at least one first instruction signal at said storage device in association with said one of said data file and said mass medium programming.

**Claim 111:**

an input device for inputting a user reaction to a mass medium programming presentation;

at least one storage device operatively connected to said input device for storing a mass medium programming signal containing (i) mass medium program materials and (ii) at least one embedded instruction signal for a variable time period and outputting said signal;

a control signal detector operatively connected to said storage device for detecting said at least one embedded instruction signal; and

a processor operatively connected to said input device, said at least one storage device, and said control signal detector for processing said input user reaction in response to said at least one embedded instruction signal and for controlling said at least one storage device to output.

**Claim 112:**

an input device for inputting a user reaction to mass medium programming ;

a transmitter for transmitting information to a remote station;

at least one storage device operatively connected to said transmitter for storing data and at least one instruction signal for a variable time period and communicating said data and said at least instruction signal;

a control signal detector operatively connected to said at least one storage device for detecting said at least one instruction signal; and

a processor operatively connected to said input device, said control signal detector, and said at least one storage device for processing said user reaction in response to said at least one instruction signal and for controlling said at least one storage device to communicate at least one of said data to said transmitter.

**D. Response to Allegation of Defective Oath/Declaration**

The Examiner asserts that the oath or declaration is defective (Office Action at 254-255.) The Examiner asserts that the instant application is a continuation-in-part of Application No. 113,329, filed August 30, 1993. Thus, the Examiner requires a new oath or declaration that acknowledges the duty to disclose to the Office all information known to Applicants to be material to patentability which occurred between the filing date of the prior application and the filing date of the instant application. Applicants note that the disclosure as filed June 7, 1996 is identical to the disclosure of Application No. 113,329. Applicants properly filed the instant application under the provisions of 37 C.F.R. § 1.60 as in effect on June 7, 1996. Rule 60 provided conditions under which an Applicant may omit signing a new oath or declaration in a continuation application. Applicants respectfully submit that they have fully complied with the provisions of Rule 60 as in effect upon filing of the instant application. Accordingly, Applicants request that the requirement for a new oath or declaration be withdrawn. Notwithstanding the above, should the Examiner maintain the requirement to file a new oath or declaration, Applicants respectfully request that the requirement be held in abeyance until allowable subject matter is indicated as provided under 37 C.F.R. § 1.111.

The Examiner addresses the preliminary amendment filed June 7, 1996, which substituted on page 1 a paragraph under 35 U.S.C. § 120 including references to related

applications. This amendment included the statement: "This is a continuation of application serial no. 08/113,329, filed August 30, 1993, herein incorporated by reference in its entirety." The Examiner apparently believes this statement introduced new matter into the specification. As the document attempted to be incorporated by reference is an *identical* specification to the specification of the instant application, the Examiner's basis for this position is not entirely clear to Applicants. However to advance the prosecution of this application Applicants request that any alleged new matter by canceling the phrase "herein incorporated by reference in its entirety" from page 1.

**E. Response to Objection to the Specification**

The Office Action states, "The instant specification is objected to because applicants are changing, some +18 years after making the '81 disclosure, the original written description." (Office Action at 8 & 253.) Applicants note for the record that the amendment to the specification that the Office Action refers to is non-existent in the instant application. Applicants believe that the Office Action was referring to another one of Applicants' co-pending amendments to the specification. However, the instant amendment to the specification at page 37 corresponds to the allegations raised by the Office Action and will be addressed below.

The amendment changes page 37, lines 23-25, of the specification to read:

Controller, 39, 44, or 47, is preprogrammed to receive [units] words of signal information, to assemble said [units] words into signal [words] units that subscriber station apparatus can receive and process, and to transfer said [words] units to said apparatus.

(Additions underlined, deletions bracketed.)

Applicants submit that this amendment corrects an inadvertent error made in preparation of the specification as filed. The amendment includes no new matter. Applicants respectfully request that the Examiner withdraw the objection for the following reasons.



The amended language describes that aspect of the invention in which signal words are received and assembled into signal units. The assembly of signal words into signal units is described consistently throughout the specification in the manner effected by the amendment. As the amendment merely clarifies the disclosure, the amendment introduces no new matter.

The specification as filed, on page 14, lines 23-25, describes, “discrete words . . . that receiver apparatus must assemble in order to receive one complete instruction.” A signal unit is defined as “one complete signal instruction.” (Spec. at 14 ll. 26-27.) Thus, words must be assembled to create a signal unit. The specification consistently discloses that signal words are received and assembled into signal units.

Further, the specification consistently refers to signal words as the basic information block from which other information units are formed. The specification at page 65, lines 34-35, states; “Each message is composed in a whole number of signal words.” “Said information consists of a series of discrete signal words.” (Spec. at 70 ll. 28-29.) “[S]aid given signal word is an EOFs WORD and may be part of an end of file signal.” (Spec. at 71 ll. 5-7.) “[T]o detect those particular uninterrupted series of EOFs WORDs that constitute end of file signals.” (Spec. at 74 ll. 11-12.) “For example, end of file signals could include the signal word preceding said uninterrupted sequence.” (Spec. at 82 ll. 23-25.) Signal words are formed into commands and other signals throughout the specification.

In the recent Office Action, the sentence on page 15, lines 4-6, of the specification is relied upon as evidence that the amendment is new matter. (Office Action at 8 & 253.) The sentence reads, “Signal words may contain parts of signal units, whole signal units, or groups of partial or whole signal units or combinations.” This statement simply describes the circumstance in which a higher level word could contain a lower level unit. Obviously, this statement does not contradict the prior statement that discrete *words must* be assembled to obtain a signal *unit*. As signal words are disclosed as being assembled

into signal units, the amendment cannot contain new matter, regardless of the other variations disclosed in the specification. The statement relied upon by the Examiner actually supports the conclusion that the amendment does not introduce new matter.

*In Personalized Media Communications, L.L.C. v. International Trade Commission*, No. 97-1532 (Fed. Cir. Jan. 7, 1999), the U.S. Court of Appeals for the Federal Circuit construed claim 35 in U.S. Patent No. 5,335,277 (the '277 patent). The '277 patent issued to Applicants on August 2, 1994, from a specification identical to the specification filed in the instant application. In construing the claims of the '277 patent, the Court concluded that the prosecution history of the '277 patent did not prevent the term "information of a selected television unit" from reading on channel and time information. The Court thus addressed the meaning of the term "selected television program unit." The Court noted that "a selected program unit" is a particular television program, such as Wall Street Week. The Court did not address the meaning of the terms "signal unit" or "signal word." No reasoning set forth by the Court conflicts with Applicants' assertion that the specification discloses that signal units are assembled from signal words.

Applicants maintain that the instant amendment to the specification corrects an obvious error in the specification as originally filed. The amended language describes the assembly of signal words into signal units. The assembly of signal words into signal unit is described at page 14, lines 23-27, of the specification. Therefore, the amendment does not include new matter. Accordingly, Applicants request that the objection to the specification be withdrawn.

**F. Response to Rejections under 35 U.S.C. § 112**

**1. Response to Rejections under §112, first paragraph**

**a) Response to Written Description Rejections**

**(1) The Office Action Fails to Establish a Prima Facie  
Rejection Under the Written Description Requirement of  
35 U.S.C. § 112**

In the Office Action, the Examiner rejects claims 3-138 under 35 U.S.C. § 112, first paragraph for incorporating subject matter not described in the specification as filed in such a manner as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, were possessed of the claimed invention. (Office Action at 8.) Applicants firmly believe that the instant specification and respective priority documents, all of which are substantially identical, each describe the subject matter of the pending claims. Thus, in Applicants' view, the pending claims fully comply with the requirements of the first paragraph of 35 U.S.C. § 112. Accordingly, Applicants respectfully request the withdrawal of the rejections of claims 3-138 under 35 U.S.C. § 112, first paragraph.

The Examiner notes that the instant specification does not include the exact words and phrases of the disclosure of Applicants' parent Application No. 317,510 (the '81 disclosure.) (Office Action at 3.) The Examiner argues that since Applicants successfully assert that the '81 disclosure supports the pending claims and the '81 disclosure is not duplicated verbatim in the instant specification then it follows that the instant specification does not support the pending claims. The Examiner assumes that the subject matter in the '81 disclosure that is not duplicated verbatim within the instant specification is omitted from the instant specification. This assumption is incorrect. Applicants maintain that, although the '81 disclosure is not included in identical words in the instant specification, the subject matter of the '81 disclosure is specifically included in the instant specification.

“The function of the description requirement is to ensure that the inventor had possession, as of the filing date of the application relied on, of the specific subject matter later claimed by him.” *In re Wertheim*, 541 F.2d 257, 262, 191 U.S.P.Q. 90, 96 (C.C.P.A. 1976). Applicants rely on the filing date of November 3, 1981. On this date, Applicants filed Application No. 317,510, now issued as U.S. Patent No. 4,694,490 (the ‘490 patent). The specification of the ‘490 patent (the ‘81 disclosure) clearly demonstrates that Applicants had possession of the subject matter presently claimed.

“[T]he PTO has the initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims.” *Id.* at 263, 191 U.S.P.Q. at 97. The Examiner has failed to meet this burden. The record of the prosecution of the instant application fails to include any reasons why persons skilled in the art would not recognize from the specification that Applicants invented the invention defined by the pending claims. The Examiner merely states, at page 15 of the Office Action, that the “instant ‘571 disclosure has not been found to describe the alleged ‘81 support ‘ . . . in such full, clear, concise, and exact terms . . . ’ as is required under the law of 35 U.S.C. 112 1st paragraph.” The Examiner also provides a list of claim phrases that are deemed to lack support (Office Action at 8-180). This list includes practically all phrases from nearly all the pending claims and amounts to an unsubstantiated assertion that the pending claims as a whole are unsupported under the written description requirement of 35 U.S.C. § 112, first paragraph. The Examiner has failed to present evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims.

The outstanding rejection under the written description requirement is merely a blanket, unsupported statement that the pending claims fail to meet the requirements of 35 U.S.C. § 112, first paragraph. Because the Examiner includes no reasons for the rejection, the only manner for Applicants to respond is to exhaustively demonstrate where each and every limitation in the pending claims is found in the specification without

regard to how clearly the specification may show each limitation to those skilled in the art. However in order to advance the prosecution of the instant application, Applicants submit herewith, Appendix A, reciting specification support for each claim limitation to the instant specification as to the parent 1981 priority application.

**(2) Applicants' Summary and Description of Integration of the Instant Specification**

Each manifestation of Applicants' claimed invention, regardless of how the manifestation may be described in the specification, is a single embodiment of the invention. Thus, the specific support provided for each claim is by definition from within a single embodiment.

Applicants acknowledge that there are numerous embodiments of the presently claimed invention described in the specification. Applicants' specification is a single cohesive document with each successive section and example extending and developing the preceding disclosure. The various disclosures, examples, and subsystems disclosed within the specification are clearly intended to be integrated into general working systems, methods and apparatus. Applicants' specification is very carefully constructed to provide clear and unequivocal contextual relationship between the various inventive concepts, processes and apparatus that Applicants disclose.

At the outset, Applicants focus on the importance of *integrating* functionalities and state:

It is the object of this invention to unlock this great potential in the fullest measure by means of an *integrated system* of programming communication that joins together all these capacities most efficiently.

(Spec. at 3 ll. 30-33)(emphasis added).

In "Background of the Invention" (Spec. at 1-11), Applicants list a multitude of problems and limitations in the prior art for which this integrated system provides valuable solutions. Applicants *also introduce focal opportunity*:

Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.)

Unlocking this potential is desirable because these new media will add substantial richness and variety to the communication of ideas, information and entertainment. Understanding complex subjects and making informed decisions will become easier.

(Spec. at 2 ll. 8-24.)

Applicants explicitly acknowledge that to succeed in the fullest measure means solving many technical problems as well as providing for a broad spectrum of subscriber information demands and equipment capacities:

To unlock this potential fully requires means and methods for combining and controlling receiver systems that are now separate--television and computers, radio and computers, broadcast print and computers, television and computers and broadcast print, etc.

But it requires much more.

To unlock this potential fully requires *a system with efficient capacity* for satisfying the demands of subscribers who have *little receiver apparatus and simple information demands* as well as subscribers who have *extensive apparatus and complex demands*. It requires capacity for transmitting and organizing vastly more information and programming than any one-channel transmission system can possibly convey at one time. It requires capacity for controlling intermediate transmission stations that receive information and programming from many sources and for organizing the information and programming and retransmitting the information and programming so as to make the use of the information and programming at ultimate receiver stations as efficient as possible.

(Spec. at 2 l. 25 through p. 3 l. 8)(emphasis added).

To disclose how the integrated system overcomes the identified limitations, solves the problems, and realizes this potential fully, requires *step-by-step teaching* of separate elements -- methods as well as apparatus -- of Applicants' disclosed system. At each new

step, the *contextual relationship* of the new teaching to earlier teachings *is explicitly stated*. Applicants highlight below how this step-by-step teaching carries the relationships of the various separate elements throughout the disclosure.

**(a) “One Combined Medium” (pages 19-28)**

In a section, (Spec. at 19-28), entitled “One Combined Medium,” (Spec. at i l. 16 and p. 19 l. 5), which focuses on the subscriber station of Fig. 1, Applicants begin by teaching “a *video/computer* combined medium,” (Spec. at 19 l. 6)(emphasis added). A local image – Fig. 1A (*See* Spec. at 25 ll. 9-14) – is provided at the subscriber station and combined with a remotely supplied video image – Fig. 1B (*See* Spec. at 25 ll. 30-33) – in order to deliver a combined image of Fig 1C (*See* Spec. at 26 ll. 8-15). (Simultaneously, user specific local images are provided at other subscriber station and combined with the remotely supplied video image – (*see*, specification at page 26 lines 16-19.)

(As an example of Applicants’ step-by-step teaching approach, not until a section entitled “Audio Overlays and Other Overlays,” which begins on page 463, are Applicants prepared to focus on Fig. 7D and teach “a radio/computer combined medium,” (Spec. at 464 l. 6), or teach “a broadcast print and computer combined medium,” (Spec. at 466 l. 20), or focus on Fig. 7E and teach “the full combined medium of television and computers,” (Spec. at 468 ll. 10-11).

In the “One Combined Medium” section, Applicants disclose concepts of “a combining operation” and “synchronization”. For example: “subscriber station apparatus ... execute *a combining operation in synchronization....*” (Spec. at 26 ll. 21-22)(emphasis added).

Applicants also teach *order* of operations. For example, one operation. (Spec. at 24 ll. 5-27), may provide the local image–Fig. 1A–at the subscriber station; a different operation, (Spec. at 26 ll. 4-11), may deliver the combined image–Fig. 1C. (“One

Combined Medium” also discloses that a third operation, (Spec. at 27 ll. 3-7), may terminate delivery of the combined image.)

More broadly, in “One Combined Medium” Applicants teach *important concepts regarding instructions* and, *most importantly, timing*. For example:

Decoder, 203, is **preprogrammed** to detect digital information .... Microcomputer, 205, is **preprogrammed** ... to respond ... to *instruction signals* embedded in the ... programming transmission.

(Spec. at 21 ll. 14-24)(emphasis added).

In said series in full--and in any one or more subsequent series of instructions--*particular instructions are separated*, as may be required, *by time periods when no instruction* that controls the microcomputer, 205, of any station *is transmitted* which periods allow sufficient time for the microcomputer, 205, of each and every subscriber station *to complete functions* controlled by previously transmitted instructions and commence waiting for a subsequent instruction, in a waiting fashion well known in the art, before receiving a *subsequent instruction*.

(Spec. at 22 ll. 9-18)(emphasis added).

*... an instruction ... causes* subscriber station apparatus to execute a combining operation in *synchronization* ....

(Spec. at 26 ll. 21-22)(emphasis added).

In addition, personalized programming is displayed *only when* it is of specific relevance to the conventional television programming of said combined medium. In the example, each subscriber views a graphic presentation of his own portfolio performance information *as soon as* it becomes specifically relevant to graphic information of the performance of the market as a whole. Prior to its time of specific relevance, no personalized information is displayed (despite the fact that said graphic information of the performance of the market as a whole is displayed). And said personalized information is displayed *only for so long as* it remains specifically relevant. *As soon as* its specific relevance terminates, its display terminates.

(Spec. at 27 ll. 21-33)(emphasis added).

In the “One Combined Medium” section, Applicants demarcate a critical type of instruction with a definition.

Hereinafter, an instruction ... that causes subscriber station apparatus to execute a combining operation ... is called a “combining synch command.”



(Spec. at 26 ll. 20-23)(emphasis added).

Furthermore, in “One Combined Medium,” Applicants teach a temporal relationship of combining synch commands that have specific functionalities. A *first combining synch command*, (See Spec. at 24 ll. 5-27 and p. 26 ll. 23-28), causes the local image—Fig. 1A—to be provided at the subscriber station. A *second combining synch command*, (See Spec. at 26 ll. 1-8 and 20-23), causes display of the combined image—Fig 1C. (Furthermore, a *third combining synch command*, (See Spec. at 27 ll. 3-7), terminates display of the combined image.) In their step-by-step teachings, Applicants *provide clear contextual pertinence of subsequent teachings by making explicit reference to* the “One Combined Medium” disclosure, and especially by *establishing the temporal relationships of subsequent teachings* to the Fig.1C combining and the functionalities provided by these combining synch commands.

(b) **“The Signal Processor” through “The Normal Transmission Location” (pages 28-86) and “The Preferred Configuration of Controller, 39, and SPAM-Controller, 205C.” (pages 156-162)**

In the specification at pages 28-86 and pages 156-162, Applicants teach apparatus and signaling techniques that are *used throughout the remainder of Applicants’ disclosure*. Applicants teach Signal Processor, (Spec. at 28-34 and Fig.1); Signal Decoder, (Spec. at 34-38 and Figs.2A-2C); and Signal Processor System, (Fig.2D), apparatus. *Applicants also teach in detail the controller* (Spec. at 156-162 and Fig.3A) *apparatus of Signal Decoders* (e.g., controller, 39, in Fig. 2A). Applicants teach signaling techniques in sections entitled “The Composition of Signal Information ... Commands, Information Segments, and Padding Bits,” (Spec. at 43-49), The Organization of Message Streams ... Messages, Cadence Information, and End of File Signals,” (Spec. at 59-69), “Detecting End of File Signals,” (Spec. at 69-84), and “The Normal Transmission Location,” (Spec. at 84-86).

(c) **“Operating Signal Processor Systems ... Introduction”  
through “Operating Signal Processor Systems ... Signal  
Record Transfer” (pages 86-278)**

At specification pages 86-278, Applicants teach methods of operating the signal processing apparatus of pages 28-86 and 156-162 explicitly within the context of the “One Combined Medium” disclosure. For example:

Five examples illustrate methods of operating signal processing system apparatus. Each focuses on subscriber stations where the signal processor system of Fig. 2D and *the combined medium apparatus of Fig. 1* share apparatus and operate in common. Fig. 3 shows one such subscriber station.

(Spec. at 86 l. 32 through p. 87 l. 2)(emphasis added).

All five examples describe signal processing variations that relate to *the Fig. 1C combining of “One Combined Medium.”*

(Spec. 87 ll. 30-32)(emphasis added).

Each example focuses on the processing of the three signal messages of the *Fig. 1C combining*. The information of said messages include three combining synch commands and one program instruction set. The first message is of the information associated with the *first combining synch command*. Said first command has a “01” header, an execution segment, and a meter-monitor segment of six fields. Said command is followed by an information segment that contains said program instruction set, and said information segment is followed by an end of file signal. Said first command addresses URS microcomputers, 205, and causes said computers, 205, to load and run the program instruction set transmitted in the information segment.

(Spec. at 89 ll. 3-16)(emphasis added).

The second message is of the information associated with the *second combining synch command*.

(Spec. at 90 ll. 4-5)(emphasis added).

The third message is of the information associated with the *third combining synch command*.

(Spec. at 90 ll. 28-29)(emphasis added).

Repeatedly throughout each of the five examples, reference is made to pertinent “One Combined Medium” disclosures. For example, in Example #1, (Spec. at 93-143), Applicants state:

## OPERATING SIGNAL PROCESSOR SYSTEMS ... EXAMPLE #1.

The first example elaborates on the Fig. 1C combining described above in “One Combined Medium” and focuses on the operation of decoder, 203, SPAM-controller, 205C, and microcomputer, 205, on the execution of controlled functions, and on the the use of cadence information to organize signal processing. The example begins as divider, 4, starts to transfer to decoder, 203, in its outputted composite video transmission, the embedded binary information of the first message.

(Spec. at 93 ll. 20-29.)

As described in “One Combined Medium” above, loading and running said program instruction set causes microcomputer, 205, (and URS microcomputers, 205, at other subscriber stations) to place appropriate Fig. 1A image information at particular video RAM.

(Spec. at 107 ll. 20-24.)

In the foregoing fashion and as described in “One Combined Medium” above, said transferred information of the second combining synch command causes microcomputer, 205, to combine the programming of Fig. 1A and of Fig. 1B and transmit said combined programming to monitor, 202M, where Fig. 1C is displayed.

(Spec. at 125 l. 31 through p. 126 l. 1.)

Fig. 3 (which is the combination of the apparatus of Figs. 1 and 2D (*See Spec. at 86 l. 32 et seq.*)) and Fig. 3A (the controller in the decoders 30 and 203 in Fig. 3, (*See Spec. at 156 l. 18 et seq.*)) depict the receiver station at which all five examples occur. Example #1 discloses in detail transfer of SPAM messages to addressed apparatus at the receiver station as well as the execution of controlled functions in response to the messages. Example #2 discloses selective decryption of content of the SPAM message stream at decryptor 10 of signal processor 200. Example #3 discloses the creation of signal records at signal processor 200 based on monitoring information contained in the message stream that delivers the Fig. 1C image. Example #4 discloses functioning of the Fig. 3A controller 39 in decoder 203, including selective decryption at decryptor 39K and additional processing of the message stream content to create signal records. Example #5

discloses the functioning of signal processor 200 components (e.g., 6, 1, 2, 3, 30 and 40) to gather data on the availability of programming (see, for example, page 269 line 6).

Pages of the specification 271-278, state: “In examples #3, #4, and #5, the transmission of SPAM signal information causes signal processor, 200, to transfer signal record information by telephone to remote station computers,” (Spec. at 271 l. 33 *et seq.*) and teach this process in detail.

**(d) “Regulating the Reception and Use of Programming ... including Example #6” and “... Example #7” (pages 278-312) as well as “... More on Example #7 ... Combining ... Automatically to the Computer System ...” (pages 427-447)**

At pages 278-312 of the specification, Applicants teach methods of governing the reception and use of programming and relate to, for example, “digital ... television transmissions,” (See Spec. at 279 l. 14). Example #6 discloses a variant of the type of decryption techniques disclosed in examples #2 and #4 to regulate the use of control signal, in particular. Focusing on the receiver station of Fig. 4, (See Spec. at 286 l. 6 through p. 288 l. 20), example #7 discloses a multistage process of selectively decrypting digital components (video and audio) of a “television signal,” (See Spec. at 288 ll. 32-33). The multistage process includes selective transfer, e.g., by tuning or switching, (Spec. at 295 ll. 6-30). At pages 427-447, additional regulating concepts are taught which are variants to the disclosure of pages 287-312, and which rely on disclosures (e.g., intermediate transmitter station automation, (Spec. at 324-390)) which occur in the specification between pages 312 and 427.

Just like every one of examples #1-#5, examples #6 and #7 (Spec. at 287-312 and 427-447) are disclosed within the context of the “Wall Street Week” program. With respect to example #6, see, for example, page 281 lines 7-9. With respect to example #7, see, for example, page 289 lines 12-27 and page 429 lines 26-33. The examples also

disclosed functionally and temporally with respect to earlier disclosures such as in “One Combined Medium” at pages 19-28 (*e.g.*, Spec. at 311 ll. 10-16 and p. 447 ll. 8-14).

**(e) “Monitoring Receiver Station Reception and Operation” (pages 312-324)**

At pages 312-324 of the specification, Applicants teach methods of monitoring the reception and operation of a receiver station using Fig. 5. Fig. 5 shows an extended system of monitoring decoder, controlled by signal processor 200, each monitoring an associated device and communicating monitor information to signal processor 200. This disclosure is also set within the context of the “Wall Street Week” program (*See* Spec. at 322 ll. 26-27), references Fig. 1B (Spec. at 322 l. 35), and cites previously defined portions of example #3, which concern monitoring (*see* Spec. at 322 ll. 30-35, p. 174 ll. 21-23, and p. 190 ll. 14-16).

**(f) “Automating Intermediate Transmission Stations”  
(pages 324-390) including “Example #8” (pages 340-354)**

At pages 324-390 of the specification, Applicants teach automation of intermediate stations. The teachings relate to forms of programming that include, but are not limited to, television, radio, and data and that apply to all manner of broadcast and cablecast operations (*see* Spec. at 324 ll. 11-17, p. 339 l. 9 through p. 340 l. 10, and p. 389 l. 14 through p. 390 l. 11). Figs. 6A-B illustrate Applicants’ teachings in the setting of a cable television system. Generally speaking, apparatus of Figs. 6A-B are described at page 324 line 18 through page 328 line 17 and page 337 lines 1-24, and the basic methods of operation of the station (*e.g.*, operating according to a complete programming schedule) are disclosed at page 325 line 17 through page 326 line 18 and page 328 line 8 through page 331 line 16. Organizing units of prerecorded programming (*e.g.*, to play according to schedule) is disclosed at page 331 line 17 through page 334 line 6. Playing according to schedule is disclosed at page 334 line 7 through page 336 line 35.

Monitoring station operations is disclosed, *inter alia*, (e.g., to provide auditable proof-of-performance) at page 337 line 25 through page 339 line 8. In their teachings of organizing, playing and monitoring, Applicants introduce exemplary programming, including **program unit Q** which is a specific focus of later disclosures in Applicants' specification. Applicants teach the subject matter of pages 324-390 following pages 86-324 to make clear that the earlier teachings apply at intermediate transmission stations as well as end user stations, (e.g., Spec. at 339 l. 29 through p. 340 l. 10 and p. 389 l. 31 through p. 390 l. 11).

In example #8, Applicants teach a distribution station, such as a satellite uplink, which transmits control signals and units of programming, such as television spot commercials, to a plurality of automated intermediate transmission stations as taught at pages 324-340 (Spec. at 340 l. 13 through p. 345 l. 28). The intermediate transmission stations receive the control signals, (e.g., Spec. at 342 l. 18 through p. 343 l. 17 and p. 344 ll. 28-32), and the programming, and store and retransmit selected exemplary television spot commercials – **most focally program unit Q**, (e.g., Spec. at 343 ll. 5-17, p. 351 l. 27 through p. 352 l. 30, and p. 353 ll. 6-28), with each intermediate station operating independently and retransmitting its selected exemplary commercial(s) at different times and in different channels (Spec. at 343 l. 5 through p. 344 l. 22 and p. 345 l. 29 through p. 354 l. 3). The intermediate stations automatically retain and communicate proof-of-performance records to one or more remote auditing stations, (see Spec. at 341 ll. 11-15 and p. 352 l. 18 through p. 354 l. 3).

(g) **Examples #9 and #10 (pages 354-390 & 469-516):  
“Automating Intermediate ... Station Combined  
Medium Operations” (pages 354-374 of Example #9)  
and “Network Control of Intermediate Generating and  
Embedding” (pages 374-390 of Example #10)**

In examples #9 and #10, at pages 354-374 of the specification for example #9 and pages 374-390 for example #10, Applicants teach automation of an intermediate station

in creation and transmission of combined medium programming (“of the same sort as ‘Wall Street Week’” at page 355 lines 1-2). At pages 469-516, Applicants teach the corresponding operations of a plurality of end user stations to which the intermediate station transmits the programming so created. Both examples focus on **Program unit Q** (see Spec. at 354 l. 35 through p. 355 l. 14, p. 374 l. 29 through p. 375 l. 12, p. 469 ll. 1-2, and p. 478 ll. 23-26). In each example, Applicants teach a sequence of messages and carefully **name each message in the sequence with a name that ties together the transmitter functions of pages 354-390 and the corresponding end user station functions of pages 469-516 unambiguously.** (Appendix D, a Glossary of Defined Terms, is included herewith identifying certain terms and defined by their use in the instant specification.) For example, the “program-instruction-set message (#9)” is defined at page 371 lines 17-19 and transmitted at page 372 lines 4-6; the “program-instruction-set message (#10)” is defined at page 385 lines 14-16 and transmitted at page 386 lines 12-14; the “program-instruction-set message (#10)” is received at the end user station(s) at page 484 lines 5-14; and at page 514 lines 8-13, 17 and 23-24 Applicants teach that the “program-instruction-set message (#9)” “[causes] the same functioning” at the end user station(s) as the “program-instruction-set message (#10)”. Some of the other messages in the sequence are named at page 372 lines 20-35, page 387 lines 19-31, page 490 lines 24-34, page 492 lines 1-11, page 495 lines 1-10, etc., and page 514 lines 8-31.

At pages 354-374 in example #9, Applicants teach local **origination**, (Spec. at 374 l. 6 and p. 368 ll. 3-4), of combined medium programming at an automated transmitter station (which is also an intermediate transmission station). **Program unit Q**, which is delivered to and handled at the intermediate station according to the teachings of pages 324-354, (Spec. at 355 ll. 15-17), is disclosed as television-based combined medium programming, (Spec. at 354 l. 35 through p. 355 l. 14), that contains embedded signals, (e.g., Spec. at 356 l. 9 through p. 358 l. 21, p. 367 ll. 30-33, p. 369 ll. 4-6, and p. 372 ll. 22-35). As one example of the creation of programming, at pages 359 line 14

through page 365 line 21, Applicants teach automation of the intermediate station to create a set of instructions (called “PROGRAM.EXE” at page 365 line 8 and defined as the “program-instruction-set of Q” at page 365 lines 18-21) and to transmit the instructions, (Spec. at 371 l. 11 through p. 372 l. 6), in a “program-instruction-set message,” (Spec. at 371 ll. 17-19 and p. 372 ll. 4-6).

At pages 374-390 in example #10, Applicants teach **network origination** (Spec. at 374 ll. 20-31) of combined medium programming and focus especially on the creation of programing *in the network* at automated intermediate stations as well as at an origination station. **Program unit Q** in example #10 is the same program unit Q as in example #10 (Spec. at 375 ll. 7-8). In example #10 Applicants disclose the same creation of programming as in example #9. For example, page 377 line 4 through page 382 line 14 corresponds to page 358 line 26 through page 366 line 18; “PROGRAM.EXE” appears at page 379 line 24, page 380 line 18, and page 382 line 3; definitions of the “program-instruction-set of Q.1” and “program-instruction-set of Q.2” occur at page 378 lines 23-28 and at page 380 lines 20-24 respectively; and generated instructions are transmitted at page 385 line 9 through page 386 line 14 in a “program-instruction-set message.” But in contrast to example #9 which focuses on origination at just one transmitter station, in example #10 Applicants teach a plurality of automated intermediate station operating in parallel under control of a network origination station to generate and transmit control instructions messages (*see* Spec. at 59 ll. 29-33) to different end user stations. Furthermore, Applicants teach that the control instructions differ from each other (e.g., the PROGRAM.EXE files in the messages (Spec. at 484 ll. 9-10 and 17-18) differ (Spec. at 379 ll. 5-31 and p. 380 ll. 7-20)).

The end user station functionalities of examples #9 and #10 are disclosed at pages 469-516. Applicants teach a series of combined medium outputs (*e.g.*, Spec. at 491 ll. 10-16 and p. 506 ll. 17-21) in response to the transmitted control instructions or “messages” (Spec. at 484 ll. 5-18, p. 485 ll. 14-18, p. 490 l. 24 through p. 491 l. 16, and



p. 505 l. 32 through p. 506 l. 21). Furthermore, the information outputted in the combined medium outputs differs from end user station end user station (Spec. at 491 ll. 10-29 and p. 506 ll. 17-31). Applicants also teach in examples #9 and #10 *other functionalities, such a viewer interactivity and interactivity with stations remote from the end user stations*, that are discussed more fully below.

**(h) Automating Ultimate Receiver Stations (pages 390-427)  
... Regulating Station Environment (pages 396-406) ...  
Coordinating a Stereo Simulcast (pages 406-419) ...  
Receiving Selected Programming (419-427)**

Focusing on Fig. 7, Applicants teach, at pages 390-396 of the specification, apparatus and functionalities of an end user station including computing, signal processing (e.g. Figs. 2-2D), switching, decrypting, etc., in addition to receivers, storage devices, and various speaker and display devices. On page 396 is additional disclosure associated with the preferred controller, 39, taught at pages 156-162. At pages 396-406, Applicants disclosure concepts associated with broadcast/cablecast control of end receiver station heating/cooling and mechanical systems as well as interactivity associated with, for example, utilities meter reading. At pages 406-419, Applicants teach coordinating separate systems under broadcast/cablecast control – in this case, controlling devices associated with television and radio to present a stereo simulcast – as well as monitoring the devices in order to provide records of the performance of the stereo simulcast and of other presentations at the end user station to a remote data collection station. At pages 419-427, Applicants teach storing identifiers (e.g., of the stocks in a stock portfolio) and controlling the receiver station (e.g., tuning cable converter 222 at page 423 lines 11-13) to receive identified news at to process the news (e.g., Spec. at 425 ll. 30-34) according to pre-entered instructions of a user.

(i) **More Disclosure in the Context of “Wall Street Week”  
(pages 427-469)**

Having taught basic concepts of apparatus and automation of ultimate receiver stations, Applicants teach more advanced concepts within the context of “Wall Street Week” and its many attendant earlier teachings. Applicants’ objective, in so doing, is to **teach how the various teachings, attendant to “Wall Street Week”, relate to each other.**

(j) **More on Example #7 (pages 427-447)**

At pages 427-447 of the specification, Applicants elaborate on the earlier “Regulating Systems” (Spec. at 288 l. 22) teachings of example #7 (Spec at 288-312), which are summarized in section (d) above. Applicants teach the network described in “One Combined Medium” (Spec. at 20 l. 28 through p. 21 l. 4) as a **self structuring, parallel processing computing system**. This teaching follows Applicants teaching of “Automating Intermediate Transmission Stations” (Spec. at 324 l. 7 and pp. 324-390) in order to **elaborate on intermediate transmission station** (*e.g.*, see references to Fig. 6 at page 429 line 29 and page 325 lines 15-16) **automation** within the context of example #7 (*e.g.*, Spec. at 429 l. 26 through p. 435 l. 15) and the teachings attendant to “Wall Street Week” generally. Applicants teach the selective processing of incoming programming in accordance pre-stored “program-unit-of-interest information” (*e.g.*, Spec. at 428 ll. 21-26) that enables different viewer stations to handle differently (*e.g.*, store/display, automatically authorize purchase of) the “Wall Street Week” programming. Applicants teach storage of programming (Spec. at 445 ll. 27-32) that includes (*e.g.*, Fig. 1C) the locally provided information (*e.g.*, Fig. 1A) combined with the remotely supplied information (*e.g.*, Fig. 1B).

**(k) Controlling Combined Medium Operations (pages 447-457)**

At pages 447-457 of the specification, Applicants teach the functioning of “One Combined Medium” (Spec. at 19-28) within the context (*e.g.*, Spec. at 451 ll. 1-3) of functions that (i) precede (Spec. at 447 l. 26 through p. 451 l. 11) the beginning of the “One Combined Medium” programming (*i.e.*, “Wall Street Week”) and (ii) follow (Spec. at 451 l. 4 through p. 457 l. 10) the display of Fig. 1C. Applicants teach **providing and updating viewer data (e.g., stock portfolio data) before** the start of, for example, “Wall Street Week” and controlling viewer stations to generate and combine into the “One Combined Medium” programming **a series of local images with each image combined within its specific time interval of relevance**. Applicants also teach **error correction techniques for controlling viewer station computers that function incorrectly or inefficiently**.

**(l) Transmitting Program Instructions Sets (pages 457-463)**

Having taught generation of more than one image, inefficiency, and error correction, Applicants teach methods, at pages 457-463, for timely provision of software for controlling the generating and combining of local images (*e.g.*, Fig. 1A) into the “One Combined Medium” programming. These include varying size of the bandwidth in which the software is located, as well as the location(s) and the timing pattern(s) in which the software is transmitted.

**(m) Audio Overlays and Other Overlays (pages 463-468)**

Focusing on Fig. 7D, Applicants teach a radio combined medium at pages 464-466 of the specification, including local selection at a radio receiver station of user specific audio and insertion of the selected audio into radio programming supplied from a remote radio transmitter. Applicants teach a broadcast print combined medium at pages 466-468, including local selection at a broadcast print receiver station of user specific text and insertion of the selected text into broadcast print programming supplied from a

remote transmitter. Focusing on Fig. 7E, Applicants teach at page 468 a television combined medium that includes customized audio as well as customized video.

**(n) Examples #9 and #10 Continued – Viewer/Listener Station Functionalities (pages 469-516)**

To teach the viewer/listener station processing of **program unit Q** in examples #9 and #10 (*see* section (g) above), Applicants focus on the “ultimate receiver station” (defined at page 40 line 35 through page 41 line 1) of Fig. 7 (*e.g.*, Spec. at 390 ll. 30-31 and p. 470 l. 9). Having taught the concepts summarized in section (m) above, Applicants can teach receiver stations interconnecting “apparatus ... in the fashion of Fig. 7E” (Spec. at 480 ll. 16-17). In this environment, Applicants teach local interactions (*e.g.*, by humans at page 471 lines 6-18 and page 508 line 19 through page 509 line, and by equipment at, for example, page 484 lines 7-18 and page 509 line 35 through page 511 line 22) result in interaction between local station and remote station equipment (*see* Spec. at 509 l. 35 through p. 510 l. 4). Drawing on virtually every previous teaching, Applicants disclose at pages 469-516 generation of a series of outputs (*e.g.*, Spec. at 485 ll. 14-18) that include video (*e.g.*, Spec. at 491 ll. 10-29), audio (Spec. at 491 l. 30 through p. 493 l. 22), and print (Spec. at 496 l. 3 through p. 499 l. 3). Applicants also disclose error correction, as summarized in the section above, at page 514 line 32 through page 516 line 13. Furthermore, Applicants disclose at page 514 lines 8-31 that the viewer/listener stations perform substantively identically in examples #9 and #10.

**(o) Preprogramming Receiver Station Operating Systems (pages 516-532) and The Preferred SPAM Header (pages 532-533)**

At pages 516-532 of the specification, Applicants teach one master control station (*e.g.*, Spec. at 518 ll. 17-26) transmitting operating system instructions to and programming transmitter and receiver station widely dispersed over a geographic area with the operating systems. Each station to be programmed selects those operating

system instructions that apply to its particular type and version of reprogrammable device(s) (*e.g.*, Spec. at 522-524), routes the instructions to memory of the reprogrammable device(s), and commences operating under control of the operating system instructions. At pages 532-533, Applicants further focus on the desirability of flexibility for system expansion and teach that the preferred SPAM header is one byte in length.

**(p) The General Case ... Summary Example #11 (pages 533-557)**

While Applicants could summarize their disclosure by simply stating that each method and feature of their disclosed “unified system” (Spec. at 533 l. 24) could be combined with every other method and feature (on its face an apparent tautology), they choose, instead, to provide one final example which explicitly relies on the entirety of foregoing disclosure. In example #11, programming is distributed in a time cycling fashion (*e.g.*, Spec. at 536 l. 11 *et seq.* and p. 556 ll. 12-14) from a European master control station via satellite (Spec. at 536 ll. 4-6) to national intermediate transmission stations (Spec. at 534 ll. 26-31) which transmit to local intermediate transmission station (Spec. at 535 ll. 18-22) which, in turn, transmit to ultimate receiver stations (Spec. at 534 ll. 1-4) where programming is displayed (*e.g.*, Spec. at 552 ll. 20-30) and information is communicated responsively (*e.g.*, Spec. at 555 ll. 14-29) back to the European master control station and the national and local intermediate stations (Spec. at 555 l. 26 through p. 556 l. 9).

The European master control station controls the national intermediate stations (*e.g.*, Spec. at 541 l. 29 through p. 542 l. 2 and p. 543 ll. 20-29) to control the local intermediate stations (*e.g.*, Spec. at 544 l. 23 through p. 545 l. 11) to control the ultimate receiver stations (*e.g.*, Spec. at 547 ll. 19-26 and p. 548 ll. 1-6). User specific information is generated at each ultimate receiver station (*e.g.*, Spec. at 548 ll. 18-22 and p. 550 ll. 30-31), stored at each ultimate receiver station (*e.g.*, Spec. at 551 ll. 11-14), explained in

combined medium output (Spec. at 552 ll. 17-30), and communicated to the European master control station and the national and local intermediate stations (Spec. at 555 l. 26 through p. 556 l. 9). At points in the disclosed example #11 cycle where functions are described in general, reference is made to earlier sections of the specification that teach the detail of how the function is performed. For example, at page 537 lines 6-17, the European master control station is explicitly disclosed as preprogramming the national and local intermediate stations and the ultimate receiver stations in the fashion summarized in the above section.

**(q) Conclusion**

As demonstrated above, within the specification, many embodiments of the claimed invention are disclosed. Each manifestation of an apparatus or method that includes the subject matter defined by the instant claims is a *single* embodiment of Applicants' invention. Such a single embodiment of Applicants' invention may have elements or steps that are described in detail in various separate sections of the instant specification. Every embodiment of the instant invention that is described by the specification as a whole is a *single* embodiment of the instant invention that provides support under the written description requirement.

It appears, however, that what the Examiner intends to request is that Applicants provide support for every limitation of an individual claim from within a single one of the detailed enumerated examples listed in the specification. In other words, the Examiner requests that the support provided for all the limitations of an individual claim be contiguous or proximate within *only a portion* of the specification, rather than the specification as a whole. The written description requirement of 35 U.S.C. § 112 does not mandate such contiguous or proximate descriptions of each element or step of every individual claim.

“To fulfill the written description requirement, a patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that the ‘inventor invented the claimed invention.’” *Regents of University of California v. Eli Lilly and Co.*, 119 F.3d 1559, 43 U.S.P.Q.2d 1398, 1404 (Fed. Cir. 1997)(quoting *Lockwood v. American Airlines*, 107 F.3d 1565, 41 U.S.P.Q.2d 1398, 1405 (Fed. Cir. 1997)). Applicants submit that one of ordinary skill in the art would determine that the inventors possessed the claimed invention by recognizing that the embodiments indicated in Appendix A are described in the specification. Since, for the reasons discussed above, one of ordinary skill in the art would recognize that the specification is a single cohesive document containing many descriptions of methods and apparatus included in general integrated systems, there is no reason that the entire support for each individual claim must come from within a single detailed enumerated example described in the specification. However in order to advance the prosecution of the instant application, Applicants have selected embodiments for inclusion in Appendix A that include elements and steps described primarily in a single enumerated example of the specification.

**(r) The Subject Matter in the ‘81 Disclosure is Specifically Included In the Instant Specification**

Applicants recognize that they must convey that they were in possession of the invention as of the effective filing date of November 3, 1981. Applicants also recognize that the claim of priority under 35 U.S.C. § 120 requires that the previously filed application disclose the invention in the manner provided by the first paragraph of 35 U.S.C. § 112. Accordingly, throughout the prosecution of the pending claims, Applicants have provided support based on the application filed November 3, 1981. Applicants also submit herewith, in Appendix A, support for each claim limitation from the application filed November 3, 1981. Applicants respectfully submit that the detailed support provided in Appendix A demonstrates full compliance with the written description

requirement of 35 U.S.C. § 112, first paragraph, and the related requirement of 35 U.S.C. § 120. Additionally, Applicants submit Appendix C herewith, to provide a correlation between the 1981 priority specification (as referenced the column and line numbers of Applicants' U.S. Pat. No. 4,694,490) and the instant specification, and Appendix D containing a Glossary of Defined Terms with respect to the instant specification.

In the Office Action at page 5, the Examiner seeks an explanation for how the '81 disclosure can be considered the specification support. The subject matter in the '81 disclosure is clearly included in the instant specification as demonstrated by Appendix C. Applicants respectfully assert that one skilled in the art, upon recognizing a description of the invention in the '81 disclosure, would readily recognize a description of the invention in the instant specification. The Examiner merely states at page 3 of the Office Action that the previously provided support does not cite the sentences, paragraphs, or passages of the instant specification. Applicants submit that the support provided in Appendix A demonstrates that the instant specification describes the subject matter that is originally disclosed in the '81 application and is presently claimed.

Applicants clarify that the instant specification does not included a verbatim duplication of the '81 disclosure. However, Applicants maintain that the subject matter in the '81 disclosure is specifically included in the instant specification. Neither 35 U.S.C. § 112 nor 35 U.S.C. § 120 requires that the parent application be incorporated into the pending application either by reference or by verbatim repetition. "In order to determine whether a prior application meets the 'written description' requirement with respect to later-filed claims, the prior application need not describe the claimed subject matter in exactly the same terms as used in the claims; it must simply indicate to persons skilled in the art that as of the earlier date the applicant had invented the what is now claimed." *Eiselstein v. Frank*, 52 F.3d 1035, 34 U.S.P.Q.2d 1467, 1470 (Fed. Cir. 1995)(citation omitted)(quoting *Vas-Cath v. Mahurkar*, 935 F.2d 1555, 1561, 19 U.S.P.Q.2d 1111, 1116 (Fed. Cir. 1991)). Applicants respectfully submit that the support



cited in Appendix A demonstrates that the '81 disclosure indicates to persons skilled in the art that as of November 3, 1981, Applicants had invented what is now claimed.

**(3) 35 U.S.C. § 112 Includes No Requirement That Identical Embodiments of the Invention be Described in Both a Parent Application and a Subsequent Application Claiming Priority Therefrom**

As discussed above, there are many embodiments of the claimed invention disclosed in the specification in such full, clear, concise, and exact terms that one skilled in the art would clearly conclude that Applicants invented the claimed invention as of the effective filing date of the application. There is no conflict or discrepancy for Applicants to refer to one embodiment at one point during the prosecution of the instant application and to refer to another embodiment at a different point. Applicants may independently rely on various embodiments of the claimed invention to demonstrate support under the written description requirement. Likewise, there is no requirement in either 35 U.S.C. § 112 or 35 U.S.C. § 120 that identical embodiments of the invention be described in both a parent application and subsequent application claiming priority therefrom. As noted above, “the prior application need not describe the claimed subject matter in exactly the same terms as used in the claims; it must simply indicate to persons skilled in the art that as of the earlier date the applicant had invented the what is now claimed.” *Eiselstein v. Frank*, 52 F.3d 1035, 34 U.S.P.Q.2d 1467, 1470 (Fed. Cir. 1995)(citation omitted)(quoting *Vas-Cath v. Mahurkar*, 935 F.2d 1555, 1561, 19 U.S.P.Q.2d 1111, 1116 (Fed. Cir. 1991)). “[I]psis verbis disclosure is not necessary to satisfy the written description requirement of section 112. Instead, the disclosure need only reasonably convey to persons skilled in the art that the inventor had possession of the subject matter in question.” *Fujikawa v. Wattonasin*, 39 U.S.P.Q.2d 1895, 1904 (Fed. Cir. 1996)(quoting *In re Edwards*, 568 F.2d 1349, 1351-52, 196 U.S.P.Q. 465, 467 (C.C.P.A. 1978)). Applicants may rely on different embodiments at different times to show that the

disclosure conveys to those skilled in the art that Applicants had possession of the claimed subject matter. Applicants respectfully submit that such use of multiple embodiments is permissible to demonstrate compliance with the written description requirement of 35 U.S.C. § 112. However, where clarity permits, Applicants have selected similar embodiments from both the '81 disclosure and the instant specification for inclusion in Appendix A to demonstrate compliance with the written description requirement.

**(4) Conclusion**

The Examiner has failed to establish a *prima facie* rejection under the written description requirement of 35 U.S.C. § 112, first paragraph, because no reasons are given as to why one skilled in the art would not consider the description sufficient. The Examiner also asserts that there is a lack of continuity between the disclosure in the application filed November 3, 1981 and the instant specification. Applicants maintain that, although the '81 disclosure is not included in identical words in the instant specification, the subject matter of the '81 disclosure is included in the instant specification. Furthermore to demonstrate support for the instant claims, submitted herewith, in Appendix A, are tables demonstrating support for each claim from both the '81 disclosure and the instant specification. In view of the above arguments and Appendices A, C & D, Applicants respectfully request that the rejection under the written description requirement of 35 U.S.C. § 112, first paragraph be withdrawn.

**b) The Specification Enables One Skilled in the Art to Make and Use the Invention**

The Examiner rejects claims 3-138 under the enablement requirement of 35 U.S.C. § 112, first paragraph. (Office Action at 5.) The Examiner concludes that the handling/transmission of "digital television signals" is not enabled by the specification. (Office Action at 181.) The Examiner also concludes that "data" could not be processed

in the same manner as television and radio programming units. (Office Action at 187.) However, these conclusions are not directed specifically to the invention claimed by the presently pending claims.

The test for enablement is whether one reasonably skilled in the art could make or use the invention from the disclosure in the application coupled with information known in the art without undue experimentation. *United States v. Telectronics, Inc.*, 857 F.2d 778, 785, 8 U.S.P.Q.2d 1217, 1223 (Fed. Cir. 1988). The invention is defined by the claims presented in the instant application. The Examiner concludes that the terms “digital” and “data” are not enabled. The Examiner fails to consider how these terms define Applicants’ invention in the instant claims. The Examiner has failed to include any analysis of whether any particular claim is supported by the disclosure. The PTO bears the initial burden of setting forth a reasonable explanation as to why it believes that the scope of protection provided by each claim is not adequately enabled by the description of the invention provided in the specification of the application. *In re Wright*, 999 F.2d 1557, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993) The Examiner has failed to consider the scope of protection provided by the claims in his analysis under the enablement requirement. Therefore, the Examiner has failed to establish a *prima facie* rejection under the enablement requirement of 35 U.S.C. § 112, first paragraph.

The Examiner suggests Applicants enumerate which claim trees are directed toward an ‘81 embodiment and which are directed toward an ‘87 embodiment. In Part a)(2)(r) above, Applicants have fully addressed this ground of rejection in the context of the written description requirement. Applicants maintain that each pending claim defines an invention that has embodiments described in both the application originally filed November 3, 1981, and the instant specification. The Examiner has failed to determine that one reasonably skilled in the art could not make or use the invention by the conclusion that the claims “seem to mix and match ‘81 and ‘87 disclosed embodiments.”

Therefore, the Examiner has failed to establish a proper rejection under the enablement requirement of 35 U.S.C. § 112, first paragraph.

**(1) “Digital” is Enabled by the Specification**

Claims 3-138 stand rejected under 35 U.S.C. § 112, first paragraph, because the Examiner alleges these claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. (Office Action at 180.) The Examiner asserts the specification fails to disclose the manner in which digital television signals are formatted and processed. The Examiner acknowledges that the transmission of digital television signals was known in the art. The rejection is based on the assertion that the transmission of digital television signals was not interchangeable with the transmission of analog television signals and the Examiner’s conclusion that Applicants’ disclosure assumes that they are interchangeable. This reasoning is an insufficient basis for the rejection of claims 3-138 for at least two reasons. First, the Examiner’s discussion of the transmission and formatting of digital television signals is not directed to the scope of claims 3-138. Second, the means needed to format and transmit digital television signals in a manner compatible with all the methods and apparatus disclosed in the specification was known by those skilled in the art.

Claims 3-138 are fully enabled by the specification. The claims 4, 11, 14, 34, 41, 97, 104 & 107 are the only claims in the instant application that specify a “digital television signal.” See Appendix A for specification support for claim 70.

Notwithstanding the above arguments, Applicants recognize that the invention defined by claims 4, 11, 14, 34, 41, 97, 104 & 107 is compatible with the use of digital television signals. The handling and transmission of digital television signals in a manner compatible with the methods described in the specification were well know to those skilled in the art as of the filing date of the instant application. The Examiner requests

Applicants to submit references which show that the means needed to format and transmit “digital television signals” were known to those skilled in the art. Applicants submit that U.S. Patent No. 3,906,480 issued on September 16, 1975 to Schwartz et al. discloses the means needed to format and transmit “digital television signals” in a manner compatible with the methods described in the specification. Schwartz et al. discloses decomposing vectors to be displayed into elemental vector segments that are *encoded* as vector symbols. Schwartz et al. further discloses that the system has the capability of storing each vector in a compacted (i.e. compressed) form while retaining its attributes and identity in storage. Applicants contend that the specification discloses the usage of digital data in a television signal similar to that which is disclosed in Schwartz et al. The means needed to format and transmit digital television signals in this manner were well known to those skilled in the art as of the filing date of this application.

The Examiner has failed to construe the claims in his analysis under the enablement requirement. The Examiner directs his analysis to the term “digital television signals,” but fails to demonstrate how this analysis applies to claims 4, 11, 14, 34, 41, 97, 104 & 107. Furthermore, means compatible with Applicants’ disclosure of formatting and transmitting digital television signals were well known in the art, contrary to the Examiner’s assertion. For at least these reasons, Applicants respectfully request the withdrawal of the rejection of claims 4, 11, 14, 34, 41, 97, 104 & 107 under the enablement requirement of 35 U.S.C. § 112, first paragraph.

**(2) “Data” is Enabled by the Specification**

Claims 3-138 and all claims depending therefrom stand rejected under 35 U.S.C. § 112, first paragraph, because the Examiner alleges these claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. (Office Action at 187.) The Examiner notes that the specification discloses

that SPAM messages can be embedded within the “normal locations” of “other media” such as broadcast data or print. The Examiner also notes that the specification discloses that print or data information is transmitted within SPAM messages. Applicants acknowledge the disclosure from line 6 of page 85 through line 11 of page 86 of the instant specification, which describes that SPAM signals may accompany conventional print or data programming. It is unclear to what specific disclosure the Examiner refers by the specific citations recited on pages 189-190, and in the footnote on page 190 of the Office Action. The Examiner asserts that these disclosures are so contradictory that one of ordinary skill in the art would need to resort to undue experimentation to practice the invention. (Office Action at 189.) Applicants firmly assert that a thorough reading of the specification shows that the disclosure is in no way contradictory with respect to the term “data.”

Applicants disclose the use of SPAM signals to control and coordinate a wide variety of subscriber stations. (Spec. at 40.) The information of SPAM signals includes data, computer program instructions, and commands. (Spec. at 41 ll. 20-21.) One typical example of the composition of a SPAM signal is shown in Figure 2E. (Spec. at 44.) The specification clearly discloses that SPAM signals may included information segments. (Spec. at 44 l. 11.) Program instruction sets, intermediate generation sets, other computer information, and data may all be transmitted in information segments. (Spec. at 53 l. 34 through p. 54 l. 2.) Applicants disclose that SPAM signals can be embedded in many different locations in electronic transmissions. (Spec. at 85 ll. 6-7.) In broadcast and data communications transmissions, SPAM signals can accompany conventional print or data programming in the conventional transmission stream. (Spec. at 85 ll. 20-23.) More precisely, the conventional print or data information may be transmitted in an information segment of a SPAM signal. (Spec. at 86 ll. 1-11.) Thus, SPAM signals can be included in broadcast print and data communication transmissions. Also, conventional data information can be transmitted in an information segment of a SPAM signal. There is no

conflict in this disclosure. Any person skilled in the art would be enabled to use SPAM signals to control and coordinate a subscriber station through a broadcast data communication transmission by reading the instant specification. After thoroughly reading the specification any person skilled in the art would require no undue experimentation to practice Applicants' claimed invention.

The Examiner asserts that Applicants' disclosure did not describe a system or method which formatted, transmitted, received, processed, or displayed data program units under control of associated SPAM messages because data program units were actually transmitted with the SPAM messages. (Office Action at 189.) The Examiner extends this conclusion to hold that the disclosure fails to set forth the means or steps needed to make or use systems in which data is manipulated in the same manner as described for television and radio television program units. (Office Action at 189-190.) The Examiner's conclusion fails to follow from the stated facts. Data program units transmitted with SPAM signals can be manipulated under the control of the associated SPAM signal. The fact that data are disclosed as transmitted in the information segment of SPAM signals in no way conflicts with disclosed control of such transmissions through the use of the SPAM signals.

Furthermore, at most the Examiner's conclusion applies to data communication transmissions that are controlled through the use of SPAM signals accompanying data programming. However, the Examiner makes no attempt to construe the claims to determine how this rejection applies to the scope of each claim. Assuming *arguendo* that the Examiner's reasoning is correct, every use of the term data does not violate the enablement requirement of 35 U.S.C. § 112. Applicants recognize that the pending claims set forth an invention that may be used with broadcast print or data communications transmissions. However, Applicants submit that the instant rejection does not directly apply to the following claim limitations:

Claim 4, "to process data," and "user specific data,"

Claims 5, 16, 35, 46, 98 & 109 “a source or supplier of data,”

Claim 11, “user specific data,”

Claim 13, “data file,”

Claim 14, “said data file,” and “user specific data”

Claims 18-19 “stored data,”

Claim 43, “one of data and mass medium programming,”

Claims 66 & 81 “processing data,”

Claims 82-83, 85-86, 89-90 & 92-93, “first data,”

Claim 106, “data file,” and

Claim 112, “storing data.”

For at least the above reasons, Applicants submit that the subject matter defined by above cited claims is described in the specification in such a way to enable any person skilled the art to make or use Applicants’ invention. Accordingly, Applicants respectfully request that the rejection of these claims be withdrawn.

**c) The Best Mode of Practicing the Claimed Invention  
Contemplated by Applicants is Disclosed in the Specification**

Claims 3-138 stand rejected under 35 U.S.C. § 112, first paragraph, because it is asserted that the best mode contemplated by the inventor has not been disclosed. (Office Action at 191.) The first paragraph of 35 U.S.C. § 112 provides that the specification “shall set forth the best mode contemplated by the inventor of carrying out his invention.” A two step inquiry is used to determine if the best mode requirement is met. *Chemcast Corp. v. Arco Industries Corp.*, 913 F.2d 923, 16 U.S.P.Q.2d 1033,1036 (Fed. Cir. 1990) First, the Examiner must determine whether, at the time Applicants filed their patent application, they knew of a mode of practicing the claimed invention that they considered to be better than any other. *Id.* Second, the Examiner must determine whether the disclosure is adequate to enable one skilled in the art to practice the best mode, if one was known to Applicants. *Id.* This inquiry is designed to preclude applicants from concealing



preferred embodiments of their inventions which they have conceived. *Id.* The Examiner has failed to apply this test in rejecting the pending claims under the best mode requirement. The Examiner has failed to present evidence that Applicants concealed any embodiment of their invention which they considered to be better than the embodiments disclosed in the instant specification. Therefore, Applicants respectfully request the withdrawal of the rejection of claims 3-138 under the best mode requirement of 35 U.S.C. § 112, first paragraph.

The Examiner compares the present case to *In re Ruschig*, 379 F.2d 990, 154 U.S.P.Q. 118 (C.C.P.A. 1967). The misapplication of *Ruschig* by the Examiner cannot substitute for the two step inquiry to be applied under a proper best mode analysis. The reasoning applied in *Ruschig* is inapplicable to the best mode rejection made by the Examiner in the instant case. First, the issue in *Ruschig* was whether a claim was supported by the disclosure of the appellants' application. *Id.* 154 U.S.P.Q. at 119. The analysis in *Ruschig* by the United States Court of Customs and Patent Appeals does not address the best mode requirement. Second, the *Ruschig* analysis is inapplicable to the facts in the instant case. In *Ruschig*, a claimed specific species of a genus of chemical compounds was not named or identified by formula in the specification. *Id.* 154 U.S.P.Q. at 121. The issue was whether the disclosure of the genus along with teachings of a number of other species would lead one skilled in the art to the claimed species. The Court held that the disclosure in *Ruschig* failed to include guides directing the selections required to arrive at the claimed compound rather than any of the many other compounds that could also be made within the genus. *Id.* 154 U.S.P.Q. at 123. The Court employed the analogy of travel through a forest. The Court found that the appellants were pointing to trees, but that there were no blaze marks to single out the trees that led to the unnamed compound. *Id.* 154 U.S.P.Q. at 122. The facts in *Ruschig* are in direct contrast to the present case. In *Ruschig* the claim limitation was *not* named or identified in the specification. In the instant case the Examiner acknowledges that Applicants' disclosure

addresses the variety of claim limitations included in the claims. (Office Action at 191.) As the claim limitations are addressed by the instant specification, no blaze marks are required to lead a skilled artisan through a forest of possibilities to find them.

The Examiner asserts that he cannot recognize the pending claimed processes within the “woods.” (Office Action at 194.) In response, Applicants have provided detailed support for each claim limitation. Applicants find it disingenuous for the Examiner to now assert that somehow Applicants have erred by describing numerous specific claim limitation details (*i.e.* pointing to the trees that make up the Examiner’s woods.)

The Examiner asserts that there is a scattering of teachings across the multiple applications in the chain of continuity of the ancestor applications relied upon by the claim of priority in the instant application. (Office Action at 193-194.) The Examiner concludes that this scattering constitutes either (1) concealment of the best mode, or (2) a failure to meet the written description requirement. For the reasons set forth above in Part a), Applicants have fully complied with the written description requirement. Also as explained above in Part a), there is no scattering of teachings across applications. The instant application is a proper continuation application of Application No. 096,096, filed September 11, 1987, which in turn is a proper continuation-in-part of Application No. 317,510, filed November 3, 1981. The instant disclosure is substantially identical to the disclosure of Application No. 096,096 (the ‘87 disclosure.) The instant disclosure includes substantially all the subject matter in the disclosure of Application No. 317,510 (the ‘81 disclosure) and adds considerable details and improvements to the methods and apparatus disclosed therein. There is no scattering of teachings across these disclosures as asserted by the Examiner.

The Examiner confusingly questions whether Applicants disclosed their best mode in relation to the terms “data,” “pending claim processes as a whole,” and “digital.” In accordance with M.P.E.P. § 2165.03, the Examiner should assume that the best mode

is disclosed unless there is evidence to the contrary. The Examiner points to no evidence indicating Applicants contemplated a best mode of carrying out the claimed invention that they have failed to disclose. That the Examiner questions whether the best mode is disclosed with respect to the “pending claim processes as a whole” is not evidence that Applicants concealed the best mode. With respect to the terms “data” and “digital,” the Examiner has utterly failed to apply the first step of the proper best mode analysis. The Examiner has failed to determine that Applicants knew that one mode was better than another. Therefore, the Examiner has failed to establish a proper best mode rejection. Applicants note that this best mode rejection appears to be a repetition of the enablement rejection, which asserts that no embodiment of Applicants invention claimed using the terms “data” or “digital” is adequately disclosed. The enablement rejection is fully addressed in Part b) above.

The Examiner has failed to apply the proper analysis in rejecting claims 3-138 under the best mode requirement of 35 U.S.C. § 112. The Examiner has failed to determine whether Applicants knew that one mode was better than another at the time the application was filed. Thus, the Examiner cannot determine whether the disclosure is adequate to enable one of ordinary skill in the art to practice the best mode. As the Examiner has failed to establish a proper rejection under the best mode requirement, Applicants respectfully request that these rejections under 35 U.S.C. § 112, first paragraph, be withdrawn.

**2. The Claims Comply With 35 U.S.C. § 112, second paragraph**

Claims 3-138 stand rejected under 35 U.S.C. § 112, second paragraph. (Office Action at 5 & 195.) The second paragraph of 35 U.S.C. § 112 mandates that the specification conclude with claims that meet two requirements. First, the claims must set forth the subject matter that Applicants regard as their invention. Second, the claims must be definite. The legal standard for definiteness is whether a claim reasonably

apprises those of skill in the art of its scope. *In re Warmerdam*, 33 F.3d 1354, 31 U.S.P.Q.2d 1754, 1759 (Fed. Cir. 1994). When rejecting any claim, the Examiner is required to state the reason for such rejection. 35 U.S.C. § 132. Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection. *Chester v. Miller*, 906 F.2d 1574, 1578, 15 U.S.P.Q.2d 1333, 1337 (Fed. Cir. 1990). Applicants submit that the Office Action fails to demonstrate that any claim is directed to subject matter that Applicants do not regard as their invention. The Office Action also fails to demonstrate that any claim fails to reasonably apprise those of skill in the art of its scope. Applicants, therefore, respectfully request the withdrawal of these rejections under 35 U.S.C. § 112, second paragraph.

Claims 3-138 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. This rejection is directed to the terms “programming” and “programming.” No further reasons are given to support this rejection. The Examiner utterly fails to indicate why any claim fails to reasonably apprise those of skill in the art of its scope. This rejection is so uninformative that it prevents Applicants from recognizing and seeking to counter the grounds for rejection and is therefore invalid under 35 U.S.C. § 132. Accordingly, Applicants respectfully request that this rejection be withdrawn. The claim language “programming” and is address below in Part b).

**a) The Claims Define That Which Applicants Regard as Their Invention**

Claims 3-138 stand rejected under 35 U.S.C. § 112, second paragraph, because the Examiner asserts that the claims fail to set forth the subject matter which Applicants regard as their invention. (Office Action at 195.) The Examiner requests “to remove all claim terms from pending claims when [their] conceptual meanings are not identical.” This logic is incorrect for the reasons given in Part 1.a)(2)(r) above, in which Applicants maintain that the subject matter in the ‘81 disclosure is specifically included in the instant specification.

Furthermore, the Examiner has merely pointed to evidence that Applicants believe that the claims are supported by the '81 disclosure. The conclusion that the claims fail to set forth subject matter which Applicants regard as their invention simply does not follow from the fact that Applicants believe that the claims are supported by the '81 disclosure. Applicants believe that the claims define an invention that is fully disclosed in both the '81 disclosure and the instant specification. The Examiner has failed to point to any evidence indicating that Applicants regard the invention to be something other than what is defined by the claims. As Applicants have consistently regarded the subject matter defined by the instant claims to be their invention, Applicants respectfully request the withdrawal of this rejection of claims 3-138 under 35 U.S.C. § 112, second paragraph.

**b) There is no discrepancy in the use of the term  
“Programming”**

In considering claims, the Examiner suggests that the Applicants' use of the term “programming” in the pending claims is “repugnant to the normal/usual use of said terminology.” (Office Action at 198.) The Examiner further suggests that, in the '81 disclosure (in the Parent Application No. 317,510 filed November 3, 1981), the Applicants defined the term “programming” as “everything transmitted over television or radio intended for communication of entertainment or to instruct or inform.” The Examiner relies on the definition of programming set forth in the abstract of the disclosure. “The purpose of the Abstract is to enable the Patent and Trademark Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure. The abstract shall not be used for interpreting the scope of the claims.” 37 C.F.R. § 1.72(b). By properly making reference to the whole specification, the Examiner will get a more complete understanding of Applicants' meaning of the term “programming”.

“It is the object of this invention to unlock this potential [for a significant increase in the scope and scale of multi-media and multi-channel presentations] by the

development of means and methods which permit progra[m]ming to communicate with equipment that is external to television and radio receivers, particularly computers and computer peripherals such as printers.” “It is the further purpose of this invention to provide means and methods to process and monitor such transmissions and presentations at individual receiver sites and to control, in certain ways, the use of transmitted progra[m]ming and the operation of certain associated equipment. Such receiver sites may be stations or systems that intend to retransmit the progra[m]ming, or they may be end users of the progra[m]ming. The present invention contemplates that certain data may be encrypted and that certain data collected from such processing and monitoring will automatically be transfer[r]ed to a remote geographic location or locations.” U.S. Patent No. 4,694,490, col. 1, ll. 22-24, 36-53.

Applicants contend that the definition of “programming”, to include television and radio entertainment information, computer programming and data to control execution of a processor, in the present application is clearly supported by the definition of the term “programming” in the ‘81 disclosure.

Applicants assert that their use of the term “programming” in the present application is both consistent with normal/usual usage and with the parent application. *Webster’s Seventh New Collegiate Dictionary* (1977) gives separate definitions for the noun and verb forms of “programming”. The noun form of “programming” is defined with a series of gerunds:

**“programming or programing ... n : the planning, scheduling, or performing of a program.”**

And the noun form of “program”, which includes the word “programming” in its definition, is:

**“program or programme ... n ... 1 ... : a public notice 2 a : a brief usu. printed outline of the order to be followed, of the feature or features to be presented, and the persons participating (as in a public exercise, performance, or entertainment) b : the performance of a program; esp : a**

performance broadcast on radio or television 3 : a plan or system under which action may be taken toward a goal 4 : CURRICULUM 5 : PROSPECTUS, SYLLABUS 6 a : a plan for the programming of a mechanism (as a computer) b : a sequence of coded instructions that can be inserted into a mechanism (as a computer) or that is part of an organism 7 : matter for programmed instruction”

The verb form of “programming” is defined with the verb form of “program” and is:

**“program also programme vt -grammed or -gramed; -gramming or -graming 1 a : to arrange or furnish a program of or for : BILL b : to enter in a program 2 : to work out a sequence of operations to be performed by (a mechanism) : provide with a program 3 : to insert a program for (a particular action) into or as if into a mechanism”**

Applicants assert that these definitions are entirely consistent with Applicants’ present and parent application. For example, the ‘81 disclosure describes a well known television program, “Wall Street Week”, at U.S. Patent No. 4,694,490 (hereinafter ‘490 col. 19 l. 5 through col. 20 l. 7. At ‘490 col. 19 l. 48-53 and col. 19 l. 63 through col. 20 l. 7, Applicants disclose a sequence of operations performed by a mechanism (a computer) which includes a first output (‘490 col. 19 l. 65 through col. 20 l. 2) and a second output (‘490 col. 20 l. 6). This sequence of operations is performed in response to “several instruction signals” (‘490 col. 19 l. 46) followed by “an instruction signal” (‘490 col. 19 l. 60). (That Applicants’ “signals” are coded is disclosed at ‘490 col. 11 lines 12-14 where a code reader passes the signals to a computer.) Applicants assert that these disclosed instruction signals (‘490 col. 19 l. 48-53 and 60-67) clearly meet the dictionary definition of a program--“a sequence of coded instructions that can be inserted into a mechanism (as a computer)”--and are, in fact, what is now, and was in 1981, widely known among those of considerably less than ordinary skill in the art as “a computer program” and as “computer programming”.

Applicants also assert that the first output (‘490 col. 19 l. 65 through col. 20 l. 2) and a second output (‘490 col. 20 l. 6), *by themselves*, also meet the dictionary definition

of a program--"the performance of a program". Furthermore, Applicants contend that they constitute both computer programming *and television programming*. Being generated and outputted by a computer qualifies them as computer programming. Being displayed as an integral part of a television program--"Wall Street Week" ('490 col. 19 l. 45, 54-60, and col. 19 l. 67 through col. 20 l. 2)--qualifies them as television programming.

Finally, Applicants assert that this disclosure is in no way inconsistent with the meaning given to "programing" in the Abstract of Applicants' parent disclosure--"everything transmitted over television or radio intended for communication of entertainment or to instruct or inform." Applicants clearly disclose that the signals are "instruction signals embedded in the 'Wall Street Week' programing transmission" ('490 col. 19 l. 43-44) and that "These signals instruct" ('490 col. 19 l. 48) and "This signal instructs" ('490 col. 19 l. 64-65).

For the reasons set forth above, Applicants assert that the term "programming" as used throughout the instant application to include what are commonly known as television, radio and computer programming is clearly and unambiguously supported by the specification as filed and withdrawal of the corresponding rejection is respectfully requested.

#### **G. Response to Rejections under 35 U.S.C. § 102**

##### **1. Rejection under 102 (b) over Applicants' U.S. Pat. Nos. '490 & '725**

Claims 3-138 stand rejected under 35 U.S.C. § 102(b). The Examiner asserts that claims are clearly anticipated by Applicants' own U.S. Patent Nos. 4,694,490 and 4,704,725. (Office Action at 199.) The instant application claims the benefit under 35 U.S.C. § 120 of the filing date of both the previous applications that matured into the patents relied upon by the Examiner. Accordingly, neither of the patents relied upon by



the Examiner is available as a reference under 35 U.S.C. § 102(b). The Examiner asserts that the instant specification fails to adequately support the instant claims. This assertion is incorrect and irrelevant to Applicants' claim of priority under 35 U.S.C. § 120.

Under 35 U.S.C. § 120, an application obtains the benefit of the filing date of a previously filed patent application if (a) the invention is disclosed in the manner provided by the first paragraph of section 112 in the previously filed application, (b) the application is filed by inventors named in the previously filed application, (c) the application is filed before the patenting or abandonment of or termination of proceedings on an application similarly entitled to the benefit of the filing date of the first application, and (d) the application contains a specific reference to the earlier filed application. The instant application meets each of these requirements with respect to Applicants' previous Application No. 317,510 filed November 3, 1981. The Examiner acknowledges that Application No. 317,510, discloses the subject matter of the instant claims. The same inventors as filed the instant application filed application No. 317,510. The instant application was filed before the termination of proceedings of Application No. 113,329, filed August 30, 1993, (currently pending) which is similarly entitled to the benefit of the filing date of Application No. 317,510. The instant application contains a specific reference to the entire chain of Applicants' applications extending back to Application No. 317,510. As the instant application meets all the requirements of 35 U.S.C. § 120, the instant application is entitled the benefit of the effective filing date of November 3, 1981. Accordingly, neither U.S. Patent No. 4,694,490 nor No. 4,704,725 are available as prior art under 35 U.S.C. § 102(b) as neither was patented or published more than one year prior to November 3, 1981.

Furthermore, the Examiner asserts, "this rejection, under 35 U.S.C. § 102(b), is caused by Applicants choice to cite passages that did not exist in the original '87 C.I.P. disclosure." Applicants respectfully assert that the showing that the instant claims are supported by the '81 disclosure cannot form the basis for this rejection under 35 U.S.C.

§ 102(b). To the contrary, the showing establishes that the instant claims are entitled to an effective filing date of November 3, 1981. Additionally, Applicants assert that the instant claims are fully supported by the instant specification as discussed above in Part F.1.a) above.

For at least the above reasons, Applicants respectfully submit that U.S. Patents Nos. 4,694,490 and 4,704,725 are not available as prior art with respect to the presently pending claims. Applicants, therefore, request the withdrawal of the rejection of claims 3-138 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patents 4,694,490 and 4,704,725.

#### **H. Response to Rejections under 35 U.S.C. § 103**

##### **1. *Prima Facie* Case of Obviousness**

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference to combine the teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references combined) must teach or suggest all the claim recitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not based on Applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). M.P.E.P. 706.02(j).

##### **2. Rejection under 103 (a, b & e) over Applicants WO 89/02682.**

Claims 3-138 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' WO 89/02682.

The Examiner asserts that all the instant claims are unpatentable over WO 89/02682 to the extent that applicants can satisfy the support enablement requirement of

Section 112, first paragraph, but not the support requirement. WO 89/02682 is the international publication number of the Applicants' own international application published March 23, 1989. The specification of this international application substantially corresponds to the specification of the instant application and the specification of the parent application filed September 11, 1987. Claims 2 to 303 are entitled to the effective filing date of November 3, 1981. However, assuming *arguendo* that the claim of priority to the 1981 application is flawed, then the claims are entitled to an effective filing date of September 11, 1987. In either case, this international application published March 23, 1989, is unavailable as prior art. Accordingly, Applicants request the withdrawal of this rejection of claims 3-138 under 35 U.S.C. § 103(a).

**3. Rejection over Greenberg, U.S. Pat. No. 4,547,804 in view of Galumbeck et al., U.S. Pat. No. 4,725,886.**

Claims 3-138, that are directed to processes of controlling cable head end processes and monitoring of those processes and combined medium presentation, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Greenberg, U.S. Pat. No. 4,547,804 in view of Galumbeck et al., U.S. Pat. No. 4,725,886.

The Office Action states that "considering pending claims of the group 3-138, that cover, *inter alia*, processes of controlling cable head end processes and monitoring of those processes and combined medium presentation are suggested by [Greenberg]."

First, Applicants traverse this rejection on the grounds that Greenberg is an unavailable reference in that it was filed on March 21, 1983, subsequent to Applicants' priority date of November 3, 1981. Additionally, Galumbeck et al. is an unavailable reference in that it was filed on April 21, 1983, again subsequent to Applicants' priority date of November 3, 1981.

Secondly, the Office Action fails to analyze any of Applicants' claim language in the rejection but rather chooses to summarize the specific contents of the instant 136

claims (numbers 3-138) with the statement, “processes of controlling cable head end processes and monitoring of those processes and combined medium presentation.” The Examiner has failed to identify which, if any, claims actually fall into the group that stands rejected. Under 37 C.F.R. § 1.104(c), “If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected.” This rule requires that the Examiner at a minimum identify the claims subject to each ground of rejection.

The Examiner has failed to identify which, if any, claims actually fall into the group that stands rejected. When rejecting any claim, the Examiner is required to state the reason for such rejection. 35 U.S.C. § 132. Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection. *Chester v. Miller*, 906 F.2d 1574, 1578, 15 U.S.P.Q.2d 1333, 1337 (Fed. Cir. 1990). Under 37 C.F.R. § 1.104(c), “If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected. . . . The pertinence of each reference, if not apparent, must be clearly explained and *each rejected claim specified*.” (emphasis added) Section 707.07(i) of the M.P.E.P. sets forth, “In every letter, each pending claim should be mentioned by number, and its treatment or status given.” Accordingly, to state a valid rejection the Examiner must, at a minimum, specify by number the claims subject to each ground of rejection. The failure of the Examiner to identify by number the claims that may stand rejected results in a statement that is so uninformative that it prevents Applicants from recognizing and seeking to counter the grounds for rejection. As the purported rejection fails to identify the claims rejected by number, the purported rejection fails to comply with the requirements of 35 U.S.C. § 132, 37 C.F.R. § 1.104(c) and M.P.E.P § 707.07(i).

The Examiner has failed to provide information on which a *prima facie* case of obviousness could be based under 35 U.S.C. § 103(a).

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

*Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459, 467 (1966).

The Examiner has utterly failed to conduct the second inquiry set forth in *Graham v. Deere*. The Office Action includes no inquiry into the differences between the prior art and the claims at issue. "Ascertaining the differences between the prior art and the claims at issue requires interpreting the claim language." M.P.E.P. § 2141.02. The Examiner makes no attempt to interpret the claim language. The Examiner makes no attempt to determine whether *the pending claims* are obvious in view of the cited prior art. Rather, the Examiner merely asserts what he feels the applied references teach. The Office Action includes no showing that applied references teach all of the limitations of any of the pending claims. Thus, the Office Action provides insufficient information on which to base a *prima facie* case of obviousness.

Applicants respectfully submit that, notwithstanding the accuracy of the Examiner's characterization of the applied references or applicability of any of these references against the pending claims, for the above reasons the Office Action fails to state a *prima facie* case of obviousness. Therefore, Applicants respectfully request that this rejection under 35 U.S.C. § 103(a) be withdrawn.

**4. Rejection over Jeffers et al., U.S. Pat. No. 4,739,510.**

Claims 3-138, that are directed to, *inter alia*, processes of controlling broadcast subscriber stations, including decrypting, processing, storing, generation and monitoring to those processes and combined medium presentation, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jeffers et al., U.S. Pat. No. 4,739,510.

The Office Action states that "considering pending claims of the group 3-138, that cover, *inter alia*, processes of controlling broadcast subscriber stations, including

decrypting, processing, storing, generation and monitoring to those processes and combined medium presentation they cover what [Jeffers et al.] suggests...broadcast programming including, *inter alia*, audio and control signals that are digitized and inserted into the horizontal blanking interval of distributed television programming.”

First, Applicants traverse this rejection on the grounds that Jeffers et al. is an unavailable reference in that it was filed on April 2, 1987, subsequent to Applicants’ priority date of November 3, 1981. Therefore, Applicants respectfully request that this rejection under 35 U.S.C. § 103(a) be withdrawn.

Secondly, the Office Action fails to analyze any of Applicants’ claim language in the rejection but rather chooses to summarize the specific contents of the instant 136 claims (numbers 3-138) with the statement, “processes of controlling broadcast subscriber stations, including decrypting, processing, storing, generation and monitoring to those processes and combined medium presentation ...broadcast programming including, *inter alia*, audio and control signals that are digitized and inserted into the horizontal blanking interval of distributed television programming.” The Examiner has failed to identify which, if any, claims actually fall into the group that stands rejected. Under 37 C.F.R. § 1.104(c), “If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected.” This rule requires that the Examiner at a minimum identify the claims subject to each ground of rejection.

The Examiner has failed to identify which, if any, claims actually fall into the group that stands rejected. When rejecting any claim, the Examiner is required to state the reason for such rejection. 35 U.S.C. § 132. Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection. *Chester v. Miller*, 906 F.2d 1574, 1578, 15 U.S.P.Q.2d 1333, 1337 (Fed. Cir. 1990). Under 37 C.F.R. § 1.104(c), “If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered

unpatentable will be rejected. . . . The pertinence of each reference, if not apparent, must be clearly explained and *each rejected claim specified.*” (emphasis added) Section 707.07(i) of the M.P.E.P. sets forth, “In every letter, each pending claim should be mentioned by number, and its treatment or status given.” Accordingly, to state a valid rejection the Examiner must, at a minimum, specify by number the claims subject to each ground of rejection. The failure of the Examiner to identify by number the claims that may stand rejected results in a statement that is so uninformative that it prevents Applicants from recognizing and seeking to counter the grounds for rejection. As the purported rejection fails to identify the claims rejected by number, the purported rejection fails to comply with the requirements of 35 U.S.C. § 132, 37 C.F.R. § 1.104(c) and M.P.E.P § 707.07(i).

The Examiner has failed to provide information on which a *prima facie* case of obviousness could be based under 35 U.S.C. § 103(a).

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

*Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459, 467 (1966).

The Examiner has utterly failed to conduct the second inquiry set forth in *Graham v. Deere*. The Office Action includes no inquiry into the differences between the prior art and the claims at issue. “Ascertaining the differences between the prior art and the claims at issue requires interpreting the claim language.” M.P.E.P. § 2141.02. The Examiner makes no attempt to interpret the claim language. The Examiner makes no attempt to determine whether *the pending claims* are obvious in view of the cited prior art. Rather, the Examiner merely asserts what he feels the applied references teach. The Office Action includes no showing that applied references teach all of the limitations of any of

the pending claims. Thus, the Office Action provides insufficient information on which to base a *prima facie* case of obviousness.

Applicants respectfully submit that, notwithstanding the accuracy of the Examiner's characterization of the applied references or applicability of any of these references against the pending claims, for the above reasons the Office Action fails to state a *prima facie* case of obviousness. Therefore, Applicants respectfully request that this rejection under 35 U.S.C. § 103(a) be withdrawn.

**5. Rejection over Hazelwood et al., U.S. Pat. No. 4,025,851 in view of the publication "System and Apparatus for Automatic Monitoring Control of Broadcast Circuits" by Yaname et al. and Hetrich, Australian Patent No. 74,619.**

Claims 3-138, that are directed to, *inter alia*, processes of controlling cable head end processes and monitoring of those processes and combined medium presentation are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hazelwood et al., U.S. Pat. No. 4,025,851 in view of the publication "System and Apparatus for Automatic Monitoring Control of Broadcast Circuits" by Yaname et al. and Hetrich, Australian Patent No. 74,619.

**a) Characterization of References**

**(1) Hazelwood et al.**

Hazelwood et al. states,

In accordance with a preferred embodiment of the invention, each network originated program is coded with a data signal from which each program may be identified. This coded data signal may take the form of a code identifying the program itself, or the code may identify the source of the program and the time that the program originated to permit the program to be identified from the station logs. The encoding is done by placing binary data on line 20 or any other unused line in the vertical interval. The coded signal is applied to the network where it is received by the network affiliated stations for immediate or delayed broadcast.

A plurality of monitoring sites are disposed about the network coverage area to monitor the programs broadcast by the network affiliates. The monitoring may be



done remotely by means of a monitor receiver that receives the programs broadcast by the network affiliates and recovers the data encoded on line 20. Alternatively, the monitoring unit may be installed on the premises of the network affiliate to monitor the program material applied to the transmitter. In the latter case, there is no need to transmit the data encoded on line 20, and the data may be stripped off by the monitoring unit before the signal is applied to the transmitter.

In either case, the data recovered from line 20 is stored at the remote location in a change format, that is, a format wherein the data is stored once, and new data is stored only when there is a change in the data. In addition, data indicative of the time interval between changes in data is stored. The time information permits delayed broadcasts to be identified since the real-time data will not correspond to the network time data in a delayed broadcast.

Each remote unit is periodically interrogated (usually once per day) via telephone line by a centrally located computer that controls a mini-computer located in each of the remotely located monitor units. Upon interrogation, the mini-computer causes the stored data to be transmitted in blocks to the central computer together with error checking data to permit the central computer to request the remotely located mini-computer to retransmit the data in the event that an error is found. In addition, each remotely located mini-computer may be reprogrammed by the central computer in the event that a modification of the data handling is desired. This is accomplished by providing each remotely located mini-computer with a hard-wired read-only memory (ROM) that initiates the data processing and transmission and a random-access memory (RAM) which may be reprogrammed by the central computer upon completion of the read-only memory routine. (Column 2, lines 8-59.)

In response to the Office Action's characterization of Hazelwood et al., on pages 208, the Office Action states that "the embedded codes ... identify the programming being broadcast by *title*,..." (emphasis added). Hazelwood et al. fails to teach identification by "title," but rather, "identified by the source identification code ... and the time of origin ... serving to identify the program. Alternatively, a unique program identifying code can be generated for identifying each program, and used instead of or in addition to the time and source identification code;..." (column 5 lines 61-66).

The Office Action on page 208 characterizes Hazelwood et al. as teaching "the embedded monitoring *instruction* codes..." and, "means for performing communication *programming* to a storage device," (emphasis added). Hazelwood et al. fails to teach "instruction codes," and "performing communication *programming* to a storage device,"

but rather “a data signal from which each program may be identified,” (column 2 line 11), is “transmitted in blocks to a central computer...,” (column 2 lines 46-47).

Additionally, the Office Action on page 209 states, “At the encoder 12 of Fig. 1, has to have (sic) been controlled so as to communicate the monitoring codes to the summing circuit 14 at “selected” times in view that the monitoring codes were carried through the line at the selected time in which they were provided to summing circuit 14.” Applicants’ best understanding of the Office Action’s characterization may apply to Applicants’ following claim language:

Claims 3 & 80, “a time,”

Claims 5, 16, 35, 46, 98 & 109, “a time of transmission,”

Claims 5, 7, 17, 37, 47, 100 & 110, “output time,”

Claims 33 & 65, “first time,”

Claims 57, 59, 61, 72, 76, 83 & 90, “duration of time,”

Claims 57, 72, 78, 83 & 86-87, “time interval,”

Claims 62-63, “second time,”

Claims 65 & 80, “period of time,”

Claims 65 & 80, “plurality of time intervals”

Claims 77, 96, 126, 128 & 130, “one time,”

Claims 84 & 91, “specific time,”

Claims 90 & 93-94, “time interval of specific relevance,” and

Claims 111-112, “time period.”

However, Hazelwood et al. mere teaches that “the video information from the camera 10 is combined with the coding information from the encoder 12 at a mixing point 14 before the signal applied to a network feed line 16 which feeds all of the local network affiliates such as the network outlet 18 shown in Fig. 1,” (column 3 lines 23-28). There is no teaching in Hazelwood et al. of “selected times” of embedding identification codes other than when programming is being feed from camera 10 to mixing point 14.

**(2) Yaname et al.**

Yaname et al. teaches at page 15 “transmitting by multiplexing a control signal together with the identification signal on the program signal,” wherein the control signal is characterized by a “ $Q_E$  signal transmitted from Station Line ...[when  $Q_E$  is] received by Station M, Station M switches its circuit toward Station Line, and each lower station thereafter switches its circuit toward the next transmitting station in turn.” This switching function as initiated by the control signal ( $Q_E$ ) at the transmitter stations initiates communication to confirm “that the trouble did not occur between itself and the next higher station, troubleshooting can effect rational recovery action without damaging stations unnecessarily.”

**(3) Hetrich**

Hetrich teaches control signals “are preferably sent over the network lines during non-programming periods such as the normal one minute station breaks between programs,” (page 11). “These control signals may be used to start and stop audio recorders to record special programs for later broadcast, to accomplish the switching of local and network programs, to interrupt programming for emergency announcements, etc.,” (page 10).

In response to the Office Action’s characterization of Hetrich, the Office Action on page 210 states that, “Hetrich discloses ... embedding control signals used for *identifying* the portions of the network programming which are to be recorded by the storage device of the affiliate stations for delayed re-broadcast,” (emphasis added). However, Hetrich fails to teach or suggest the control signals “identifying the portions of the network programming.” All Hetrich teaches the control signals are operative to do is to “start and stop audio recorders to record special programs for later broadcast, to accomplish the switching of local and network programs, to interrupt programming for emergency announcements,” (at page 10).

Additionally, the Office Action's characterization of Hetrich on page 211 states that, "the control codes are effective to instruct the affiliate station to delay the network programming for some selected period of time." Applicants traverse this interpretation of Hetrich's disclosure since all that the control signals are disclosed to accomplish is to "start and stop audio recorders to record special programs for later broadcast, to accomplish the switching of local and network programs, to interrupt programming for emergency announcements," (at page 10). There is no teaching or suggestion that the control signals "instruct" the network station to delay the network programming, but merely to start and stop a recording device at the network station. The disclosure anticipates the subsequent broadcasting of the special recorded programs, but fails to indicate that the record start/stop control signal additionally "instructs" the subsequent rebroadcasting.

**b) Absence of Comparison of Cited References with Applicants' Claim Language**

The Office Action states that "considering pending claims of the group 3-138, that cover, *inter alia*, processes of controlling cable head end processes and monitoring of those processes and combined medium presentation [Hazelwood] suggests the term 'processor' wherein the network station, the affiliate station, and the individual circuits which make up the network and affiliate stations, all function to process signals and hence are considered processors of a kind."

The Office Action fails to analyze any of Applicants' claim language in the rejection but rather chooses to summarize the specific contents of the instant 136 claims (numbers 3-138) with the statement, "processes of controlling cable head end processes and monitoring of those processes and combined medium presentation...wherein the network station, the affiliate station, and the individual circuits which make up the network and affiliate stations, all function to process signals and hence are considered processors of a kind." The Examiner has failed to identify which, if any, claims actually

fall into the group that stands rejected. Under 37 C.F.R. § 1.104(c), “If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected.” This rule requires that the Examiner at a minimum identify the claims subject to each ground of rejection.

When rejecting any claim, the Examiner is required to state the reason for such rejection. 35 U.S.C. § 132. Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection. *Chester v. Miller*, 906 F.2d 1574, 1578, 15 U.S.P.Q.2d 1333, 1337 (Fed. Cir. 1990). Under 37 C.F.R. § 1.104(c), “If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected. . . . The pertinence of each reference, if not apparent, must be clearly explained and *each rejected claim specified*.” (emphasis added) Section 707.07(i) of the M.P.E.P. sets forth, “In every letter, each pending claim should be mentioned by number, and its treatment or status given.” Accordingly, to state a valid rejection the Examiner must, at a minimum, specify by number the claims subject to each ground of rejection. The failure of the Examiner to identify by number the claims that may stand rejected results in a statement that is so uninformative that it prevents Applicants from recognizing and seeking to counter the grounds for rejection. As the purported rejection fails to identify the claims rejected by number, the purported rejection fails to comply with the requirements of 35 U.S.C. § 132, 37 C.F.R. § 1.104(c) and M.P.E.P § 707.07(i).

The Examiner has failed to provide information on which a *prima facie* case of obviousness could be based under 35 U.S.C. § 103(a).

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

*Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459, 467 (1966).

The Examiner has utterly failed to conduct the second inquiry set forth in *Graham v. Deere*. The Office Action includes no inquiry into the differences between the prior art and the claims at issue. "Ascertaining the differences between the prior art and the claims at issue requires interpreting the claim language." M.P.E.P. § 2141.02. The Examiner makes no attempt to interpret the claim language. The Examiner makes no attempt to determine whether *the pending claims* are obvious in view of the cited prior art. Rather, the Examiner merely asserts what he feels the applied references teach. The Office Action includes no showing that applied references teach all of the limitations of any of the pending claims. Thus, the Office Action provides insufficient information on which to base a *prima facie* case of obviousness.

Applicants respectfully submit that, notwithstanding the accuracy of the Examiner's characterization of the applied references or applicability of any of these references against the pending claims, for the above reasons the Office Action fails to state a *prima facie* case of obviousness. Therefore, Applicants respectfully request that this rejection under 35 U.S.C. § 103(a) be withdrawn.

**c) Office Actions Improper Motivation for Combining References**

The Office Action on pages 209-210 states, "pending claims of the 3-138, directed to, *inter alia*, processes of controlling cable head end processes and combined medium presentation, not suggested by [Hazelwood et al.], are further suggested [by] Yaname et al. and [Hetrich]." However, the Examiner never states what elements of Applicants' claims were not suggested by the base reference Hazelwood et al. Applicants traverse this rejection as being improper and request withdrawal of the rejection.

**(1) Improper Combination of Hazelwood et al. in view of Yaname et al.**

Applicants contend that the Office Action improperly combined the switching control codes of Yaname et al. with Hazelwood et al. The disclosure of Hazelwood et al.

is directed toward the storing of embedded program identifiers at either network affiliate stations or at viewer receiver stations. Hazelwood fails to teach or suggest any anticipation of transmitted control codes that alter transmitter stations' circuits to switch output toward upline transmitter stations as taught by Yaname et al. The only disclosure in Hazelwood et al. regarding altering the functionality of a station is the reprogramming of the data collecting monitoring devices by a central data collection station via telephone lines. The Examiner cannot assume it is obvious to modify Hazelwood et al. in view of the control codes of Yaname et al. simply due to the fact that both disclosures have "identification codes" in common, when the base reference Hazelwood et al. fails to anticipate any need for the alleged modifying multiplexed control signal of Yaname et al. that changes the functionality of switching output at a transmitter station. Applicants traverse the rejection combining Hazelwood et al. and Yaname et al. for failing to provide proper motivation for combining the references since there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference to combine the teachings. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). M.P.E.P. 706.02(j).

**(2) Improper Combination of Hazelwood et al. and Yaname et al., further in view of Hetrich.**

Assuming *arguendo*, that it would have been obvious to modify Hazelwood et al. in view of Yaname et al., Applicants traverse the combination of Hetrich with the two mentioned references. Applicants contend that there was no motivation provided and that it would be improper to combine the recording start and stop control signals transmitted at station breaks of Hetrich with the transmitting station circuit switch control signals of Yaname et al. The Examiner cannot assume it would have been obvious to modify Hazelwood et al. and Yaname et al. further in view of Hetrich due to the fact that both disclosures have "control signals" in common. Yaname et al. discloses transmitting control codes for the purpose of switching output circuits at transmitter stations for the

purpose of confirming that the transmission trouble (errors) did not occur between itself and the next higher transmitter station. There is no teaching or suggestion in Yaname et al. that the disclosed Q<sub>E</sub> signal could be modified to anticipate and other function including the starting and stopping of recorders during non-program periods as disclosed by Hetrich. Applicants traverse the rejection combining Hetrich with Hazelwood et al. and Yaname et al. for failing to provide proper motivation for combining the references since there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference to combine the teachings. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). M.P.E.P. 706.02(j).

6. **Rejection over either one of the common subject matter suggested by Campbell et al., (WO 81/02961, abandoned parent application no. 135,987, and U.S. Pat. No. 4,536,791), in view of at least one or more of: Breeze “Television Line 21 Encoded Information and It’s Impact on Receiver Station Design”; Schnee, U.S. Pat. No. 4,290,142; and Zaboklicki, DE 2,904,891.**

Claims 3-138, that are directed to, *inter alia*, processes of controlling subscriber station processes and monitoring of those processes and of combined medium presentation and processes, are rejected under 35 U.S.C. § 103(a) as being unpatentable over either one of the common subject matter suggested by Campbell et al., (WO 81/02961, abandoned parent application no. 135,987, and U.S. Pat. No. 4,536,791), in view of at least one or more of: Breeze “Television Line 21 Encoded Information and It’s Impact on Receiver Station Design”; Schnee, U.S. Pat. No. 4,290,142; and Zaboklicki, DE 2,904,891.

**a) Office Action’s Failure to Identify Applicants Claim in the Rejection**

The Examiner has failed to identify which, if any, claims actually fall into the group that stands rejected. Under 37 C.F.R. § 1.104(c), “If the invention is not



considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected.” This rule requires that the Examiner at a minimum identify the claims subject to each ground of rejection.

Applicants summarize the rejection:

- 1) The Office Action states, “Campbell et al. suggest (sic) the claims that cover an addressable cable television control system controlling television program and data signal transmission from the cable head end to the subscriber stations,” (at pages 212-213).
- 2) The Office Action then characterizes the Campbell et al. reference with no specific mention to any claims at issue in the instant application.
- 3) The Office Action then states, “Claims that cover processes of controlling subscriber station processes and monitoring of those processes and of combined medium presentation and processes that are not suggested by Campbell et al. are suggested by Breeze,” (at page 215).
- 4) The Office Action then characterizes the Breeze reference with no specific mention to any claims at issue in the instant application.
- 5) The Office Action then states, “Claims that cover processes of controlling subscriber station processes and monitoring of those processes and of combined medium presentation and processes that are not suggested by Campbell et al. and are not suggested by Breeze, are suggested by [Schnee],” (at page 216).
- 6) The Office Action then characterizes the Schnee reference with no specific mention to any claims at issue in the instant application.
- 7) The Office Action then states, “Claims that cover processes of controlling subscriber station processes and monitoring of those processes and of combined medium presentation and processes that are not suggested by Campbell et al. and are not suggested by Breeze, are not suggested by [Schnee], are suggested by [Zaboklicki],” (at page 216).

8) The Office Action then characterizes the Zaboklicki reference with no specific mention to any claims at issue in the instant application.

9) The Office Action states that “it would have been obvious ... for providing cable subscribers with enhanced interactive processes including enhanced conventional entertainment, providing useful information, and offering greater control to the cable head end operators.” Applicants note that in the entire rejection, not one word of Applicants’ instant claim language was addressed. It seems that the Examiner uses broad characterizations of general concepts found in the instant application and elsewhere in Applicants’ co-pending applications to make this rejection.

Applicants traverse this grounds of this rejection as being improper for failing to identify Applicants’ specific claim language that allegedly reads on the prior art.

When rejecting any claim, the Examiner is required to state the reason for such rejection. 35 U.S.C. § 132. Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection. *Chester v. Miller*, 906 F.2d 1574, 1578, 15 U.S.P.Q.2d 1333, 1337 (Fed. Cir. 1990). Under 37 C.F.R. § 1.104(c), “If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected. . . . The pertinence of each reference, if not apparent, must be clearly explained and *each rejected claim specified*.” (emphasis added) Section 707.07(i) of the M.P.E.P. sets forth, “In every letter, each pending claim should be mentioned by number, and its treatment or status given.” Accordingly, to state a valid rejection the Examiner must, at a minimum, specify by number the claims subject to each ground of rejection. The failure of the Examiner to identify by number the claims that may stand rejected results in a statement that is so uninformative that it prevents Applicants from recognizing and seeking to counter the grounds for rejection. As the purported rejection fails to identify the claims rejected by number, the purported rejection fails to comply with the requirements of 35 U.S.C. § 132, 37 C.F.R. § 1.104(c) and M.P.E.P § 707.07(i).

The Examiner has failed to provide information on which a *prima facie* case of obviousness could be based under 35 U.S.C. § 103(a).

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

*Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459, 467 (1966).

The Examiner has utterly failed to conduct the second inquiry set forth in *Graham v. Deere*. The Office Action includes no inquiry into the differences between the prior art and the claims at issue. “Ascertaining the differences between the prior art and the claims at issue requires interpreting the claim language.” M.P.E.P. § 2141.02. The Examiner makes no attempt to interpret the claim language. The Examiner makes no attempt to determine whether *the pending claims* are obvious in view of the cited prior art. Rather, the Examiner merely asserts what he feels the applied references teach. The Office Action includes no showing that applied references teach all of the limitations of any of the pending claims. Thus, the Office Action provides insufficient information on which to base a *prima facie* case of obviousness.

Applicants respectfully submit that, notwithstanding the accuracy of the Examiner’s characterization of the applied references or applicability of any of these references against the pending claims, for the above reasons the Office Action fails to state a *prima facie* case of obviousness. Therefore, Applicants respectfully request that this rejection under 35 U.S.C. § 103(a) be withdrawn.

**b) Rejection further in view of Zaboklicki.**

Zaboklicki discusses in general terms (as best understood by Applicants) an “interactive television system” (i) wherein “a local central unit is provided in the home television receivers on the receiver side; that central unit switches the data selection systems on the basis of the television viewer’s answer and on the basis of the centrally

transmitted digital processing program for the television segments (transmission fragments)” (English language translation of DE 29 04 981 A 1 at 10 ll. 13 - 18); (ii) with “individual variants of ... additional information ... passed on in the form of acoustic or sound signals in the television receiver in the infrared band to the individual infrared receivers” (*id.* at 11 ll. 2 - 7); (iii) with “participation of the television viewer in the centrally transmitted telecast in such a way that the output signals of the local central unit in the viewfinder of the television camera turn on the contours of the person is provided for by the director [whereby the shape of the viewer contained in these contours is blended into the main content” (*id.* at page 12, lines 8 - 13); and (iv) wherein, “[i]n the case of telecasts where an answer or the opinion of the television viewers is desired... the viewer’s answer is put out parallel and converted into telephone signals... introduced into the subscriber telephone line... [and] supplied to the monitor in the television studio after statistical processing” (*id.* at 12, l. 13 through p. 13 l. 3).

In fact, Zaboklicki is so vague and indefinite in its description of the technology that virtually any reliance on the publication as prior art in the instant application can only be based on speculation and conjecture about the functionalities alleged to be provided by, or the method of operation of, the Zaboklicki system. Zaboklicki is not an enabling publication.

Applicants note the PTO has supplied and relies on a translation of German Patent publication No. DE 2904981 A 1 in formulating the rejections of the subject claims. Applicants have found that the applied German Patent publication is based on an earlier Polish patent application No. PL 204525 A filed February 9, 1978. In addition to the German publication, the earlier Polish application also forms the basis for French patent publication FR 2417226 A published October 12, 1979 and British patent publication GB 2016874 A published September 26, 1979.

After careful review of the Polish application and British publication, it is self evident that neither the translation provided by the PTO nor the British patent publication

(presumably prepared or approved by Zaboklicki) indicates or suggests any method of operation of, or relationship between, the blocks shown in the various figures. In fact, it is difficult or impossible to determine what functions are being performed by the blocks shown in the various figures because many of the labels are not descriptive, failing to articulate or indicate the intended function. The written description does not cure this defect of the disclosure, failing to describe the functions or the interactions between the blocks. Examples of labels inadequately describing the structure of and function performed by the corresponding blocks are included in the following table.

Ref. No	Label	Description	
		English Language Translation of German Patent Publication	British Patent Publication
4	The circuit for the prescreening of information items for television viewers	preliminary screening of the information items for the television viewer	distributes the information for televiewers
5	The control circuit	None	output of control system 5 is additionally fed to the circuits 8 and 10 and is also applied to a circuit 11 for restoring the music signal
6	The central unit (the processor, for example, integrated microprocessor)	the output signals of the central unit 6 control a data selection circuit 8; energizes a sound signal switching unit 20 in at least one additional sound channel	output of circuit 3 is fed to a processor 6 ... [which] is also fed with signals representing the televiewer's answer from the circuit 2 [and] transmits a digital programme of manipulation, televiewers' answers and the successive identification data of ... individual fragments of the broadcast to a store or memory (RAM) 7; keyboard 12 feed into the processor 6 and the latter output to a transmitter of infra-red signals 13 which produces a remote control signal at 14; Digital data and audio signals with different variants of additional information are applied at 15 to the input of a receiver 16 of infra-red signals having an output in the form of digital data fed over line 17 to processor 6; switching-on of the selected audio channel as determined by the processor 6
10	The circuit for video signal conversion and image illumination	used to convert video signals and for image illumination	for converting video signals and displaying a picture
11	The circuit for sound signal restitution	circuit for sound signal restitution	for restoring

Ref. No	Label	Description	
		English Language Translation of German Patent Publication	British Patent Publication
15	The digital data and the phonics with the different variants of additional information	None	input of receiver 16
19	The command for sound turn-on in the corresponding channel	command for a sound signal of a corresponding channel that is supplied to a circuit 20 for turning on the selected sound channel	commands to switch-on the audio signal from a specific channel are fed over the command line 19 from the processor 6 to the receiver 20
27	The switchover of the television channels for the prescreening of the corresponding fragments of a telecast	line for switching over television channels for preliminary screening of the corresponding fragments of a telecast	television receiver 54 is fed over line 53 with control signals from the remote control signal receiver 52 and over the one 27 from the output system 49 of the processor
28	The short term of call signal transmission during which the answer is delayed	control signal for the delay of the answer, which represent the short span of time during which call signal transmission takes place and during that time span, the answer is delayed.	[Control system 32] is also fed via 28 with a short delay signal for sending the dialing signals when the answer is postponed
29	The prefix generator for transmission announcement of the television viewer's answer	for a transmission announcement of the television viewer's answer with a subscriber generator 30 and with a circuit 31 to generate the television viewer's answer	prefix generator for announcing the transmission of the televiewer's answer
35	The circuit for the introduction of the initial data of the television viewers	serves to put in initial data from the television viewers	circuit for introducing the televiewer's answers
36	The circuit for the prescreening of the digital data from the video signal	causes the preliminary screening of the digital data of the video signal	system for distributing the digital data from the video signals
38	The multiplexer circuit	supplies a signal for the subscriber telephone line 33.	Output from the units 29 and 30, 31 and 32 are applied to a multiplexer 38 whose output 46 is in turn fed to a subscriber telephone line
40	The circuit for the prescreening of the digital handling program (telesoftware) and the identification data of the individual fragments of the telecast	for the prescreening of digital processing programs and the identification data of the individual transmission fragments with the input circuits 39	system for separation of the telesoftware and the identification data of the individual fragments of the broadcast

Ref. No	Label	Description	
		English Language Translation of German Patent Publication	British Patent Publication
41	The data selection circuit of the circuit for the comparison of the addresses of the teletext information items ....	constitutes a data selection circuit or a circuit for the comparison of the addresses of text information, for example, page numbers. Local central unit 6 switches over the data selection circuits 41 as a result of the answers from a television viewer and the digital processing programs which are supplied to the central unit 39 by the output circuit	information selections system or a system for comparing the address of the teletext information, for example the page number, in conjunction with the local processor 6 for switching over the information selection system depending upon the viewers answer and on the telesoftware
42	generator of the alphanumeric and graphic symbols	generator for alphanumeric and graphic symbols	alphanumeric and graphic character generator
43	circuit for turning on one of the additional sound channels in the television receiver (54)	switch-on or for the operation of additional sound channels of a television receiver 54	audio channel switch for switching on the sound signal in the television receiver
45	multiplexer circuit	multiplexer circuit	multiplexer of the receiver
46	signal output for the subscriber telephone line	None	none
47	circuit for the prescreening of the symbols for the control of the image illumination function	prefiltering or prescreening of the symbols for the control of image illumination	system for distributing characters to the display control
48	output circuit for symbols	output circuit	character output system
51	multiplexer circuit in the viewfinder of the television camera for the application of the graphic symbols on the image	multiplexer circuit 51 in the viewfinder of a television camera is used to project the graphic symbols into the image of receiver 54 of the television camera that furthermore is connected to a receiver 52 for a remote-control signal	multiplexer system
54	television receiver with at least one additional sound channel	Receiver	television receiver including an audio channel switch 43 for switching on the sound signal in the television receiver and an output circuit 55 for the video signal

Ref. No	Label	Description	
		English Language Translation of German Patent Publication	British Patent Publication
56	teletext decoder with the additional data output after hamming decoder	a video text decoder 56 with an additional data output (hamming decoder)	teletex decoder having an additional data output behind the Hamming decoder comprising a control system 26, a system 36 for distributing the digital data from the video signals, a system 40 for separation of the telesoftware and the identification data of the individual fragments of the broadcast, an information selection system 41, (or a system for comparing the address of the teletex information, for example the page number, in conjunction with the local processor 6 for switching over the information selection system depending upon the televiewers answer and upon the telesoftware), an RAM memory 44, a system 57 for distributing control characters, (for example no display), an alphanumeric and graphic character generator 42, a system 47 for distributing characters to the display control and a character output system 48.
57	circuit for the prescreening of the control symbols, for example, a command: do not illuminate	A circuit 57 in decoder 56 is used for the prefiltering of control signals or control commands (For example, do not illuminate.)	system for distributing control characters, (for example no display)

It is established that prior art must be enabling. *Rockwell Int'l. Corp. v. United States*, 147 F.3d 1358, 1365, 27 U.S.P.Q.2d 1027 (Fed. Cir. 1998). "In order to render a claimed apparatus or method obvious, the prior art must enable one skilled in the art to make and use the apparatus or method." *Beckman Industries, Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551, 13 U.S.P.Q.2d 1301, 1304 (Fed. Cir. 1989) (citing *In re Payne*, 606 F.2d 303, 314, 203 U.S.P.Q. 245, 255 (CCPA 1979)). Accordingly, in *Beckman*, held as a correct statement of the law were jury instructions that stated, "References relied upon to support a rejection for obviousness must provide an enabling disclosure. That is to say, they must place the claimed invention in the possession of the public." *Id.* at 1550-51, 13 U.S.P.Q.2d at 1303-4. The Federal Circuit has observed that "even if the claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art



if it was not enabling.” *In re Donohue*, 766 F.2d 531, 533, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985) (citing *In re Borst*, 345 F.2d 851, 855, 145 U.S.P.Q. 554, 557 (C.C.P.A. 1965), cert. denied, 382 U.S. 973, 148 U.S.P.Q. 771 (1966) (“the disclosure must be such as will give possession of the invention to the person of ordinary skill”)). *See also In re Epstein*, 32 F.3d 1559, 1568, 31 U.S.P.Q.2d 1817, 1823 (Fed. Cir. 1994); *Reading & Bates Construction Co. v. Baker Energy Resources Corp.*, 748 F.2d 645, 651-52, 223 U.S.P.Q. 1168, 1173 (Fed. Cir. 1984); *Preemption Devices, Inc. v. Minnesota Mining & Manufacturing Co.*, 732 F.2d 903, 906, 221 U.S.P.Q. 841, 843 (Fed. Cir. 1984).

If anything is clear, it is that Zaboklicki does not place the technology of Applicants’ invention into the hands of the public. The reference to Zaboklicki at most presents some block diagrams which, as best understood, are directed to the four functions previously outlined. The details of these functionalities or how they are accomplished are not described in sufficient detail or with sufficient clarity to constitute an enabling disclosure.

Therefore, Applicants respectfully request the withdrawal of this rejection of claims 3-138 under 35 U.S.C. § 103(a).

7. **Rejection further in view of one or more of: Hazelwood et al., Yaname et al., Hetrich, Marsden, Young et al., "Journal of SMPTE" Oct. 1971, U.S. Pat. No. 3,761,888 to Flynn, U.S. Pat. No. 3,627,914 to Davis, Tunmann et al., U.K. Pat. No. 959,374 to Germany, Byloff, Chiddix, Skilton, Schiller et al., Zettl, Vikene, U.S. Pat. No. 4,547,804 to Greenberg, Jeffers et al., Diederich, Campbell et al. (WO 81/02961, abandoned U.S. application no. 135,987, and U.S. Pat. No. 4,536,791), Kazama et al., Gosch, Stern, Breeze, Barlow, Millar, U.S. Pat. No. 4,725,886 to Galumbeck et al., "CBS/CCETT North American Broadcast Teletext Specification," Zaboklicki, U.S. Pat. No. 4,064,490 to Nagel, U.S. Pat. No. 4,251,691 to Kakihara, Hedger et al., Anderson, Gunn, Gaucher, U.S. Pat. No. 4,290,142 to Schnee et al.**

Claims 3-138, that are directed to, *inter alia*, either processes of controlling affiliate stations and processes and monitoring of those processes and combined medium presentation or processes of controlling subscriber stations and method and process for monitoring and providing combined medium presentations, that fall out each particular determining group members of the group of claims described in rejection above, the groups are rejected further in view of one or more of: Hazelwood et al., Yaname et al., Hetrich, Marsden, Young et al., "Journal of SMPTE" Oct. 1971, U.S. Pat. No. 3,761,888 to Flynn, U.S. Pat. No. 3,627,914 to Davis, Tunmann et al., U.K. Pat. No. 959,374 to Germany, Byloff, Chiddix, Skilton, Schiller et al., Zettl, Vikene, U.S. Pat. No. 4,547,804 to Greenberg, Jeffers et al., Diederich, Campbell et al. (WO 81/02961, abandoned U.S. application no. 135,987, and U.S. Pat. No. 4,536,791), Kazama et al., Gosch, Stern, Breeze, Barlow, Millar, U.S. Pat. No. 4,725,886 to Galumbeck et al., "CBS/CCETT North American Broadcast Teletext Specification," Zaboklicki, U.S. Pat. No. 4,064,490 to Nagel, U.S. Pat. No. 4,251,691 to Kakihara, Hedger et al., Anderson, Gunn, Gaucher, U.S. Pat. No. 4,290,142 to Schnee et al.

**a) The Provisional Rejection over Numerous References is Improper**

Paragraph 19 of the Office Action it is stated: “Pending claims of the group 3-138 that are directed to, *inter alia*, either process of controlling affiliate stations and processes and monitoring of those processes and combined medium presentation or processes of controlling subscriber stations and method and process for monitoring and providing combined medium presentations, or both, that fall out each particular determined group members of the group of claims described in rejection above, the groups are provisionally rejected further in view of one or more of [some thirty-six listed references].” This statement clearly fails to state a proper rejection. This statement fails to provide reasons for a rejection and is clearly so uninformative that it prevents the applicant from recognizing and seeking to counter any potential grounds for rejection. Applicants cannot determine to what claims this statement is applicable. The Examiner has failed to cite to the best references and avoid merely cumulative references. The references cited include at least some that cannot be relied upon as prior art against the pending claims. The Examiner has failed to explain the pertinence of each reference and to specify each rejected claim. The Office Action includes an explanation of the Examiner’s understanding of the level of skill in the art in terms of some of the cited references. However, this explanation fails to include the elements of a proper rejection under 35 U.S.C. § 103(a). Furthermore, the statement does not purport to be a rejection, but rather states that groups are *provisionally* rejected. Applicants find no rejection in this statement by the Examiner to which a response from Applicants is required.

The Examiner has no authority to “provisionally” reject claims in view of one or more of a large group of generally cumulative references. The Office Action includes no reference to any authority for this “provisional” rejection. The M.P.E.P. provides for a provisional rejection only in the situation where a pending application upon issuance will become valid prior art, against provisionally rejected claims, under 35 U.S.C. § 102(e), 35

U.S.C. § 101 (statutory double patenting), or the judicially created doctrine of obvious type double patenting. The pending application used in the provisional rejection must have a common assignee or common inventor with the application containing the provisionally rejected claims. *See*, M.P.E.P §§ 706.02(f), 706.02(k), and 804. The provisional rejection is permitted to alert applicants that they should expect an actual rejection on the merits if and when the applied pending application issues. There is no authority nor is there any good reason to issue a provisional rejection over references that are issued patents or have been published. The Examiner appears to attempt to alert Applicants to potential rejections that will be made once the Examiner has fully reviewed and analyzed the instant application to determine whether the claims define a useful, novel, non-obvious, and enabled invention that has been clearly described in the specification. However, the Examiner should clearly articulate any rejection early in the prosecution process so Applicants have the opportunity to provide evidence of patentability and otherwise respond completely at the earliest opportunity. M.P.E.P. § 706. The Examiner may not reserve rejections for future actions. “The examiner’s action will be complete as to all matters.” 37 C.F.R. § 1.104(b). “If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable *will* be rejected.” 37 C.F.R. § 1.104(c)(1)(emphasis added). As this purported “provisional” rejection is asserted under no authority and fails to clearly articulate any rejection, Applicants respectfully submit that this “provisional” rejection has no effect on the instant application.

**b) Rejection under 35 U.S.C. § 103 is Improper**

Additionally, this statement fails to provide reasons for a rejection and is clearly so uninformative that it prevents the applicant from recognizing and seeking to counter any potential grounds for rejection. Applicants cannot determine to what claims this statement is applicable. The Examiner has failed to cite to the best references and avoid

merely cumulative references. The references cited include at least some that cannot be relied upon as prior art against the pending claims. The Examiner has failed to explain the pertinence of each reference and to specify each rejected claim. The Office Action includes an explanation of the Examiner's understanding of the level of skill in the art in terms of some of the cited references. However, this explanation fails to include the elements of a proper rejection under 35 U.S.C. § 103(a).

The Examiner has failed to identify which, if any, claims actually fall into the group that stands rejected. Under 37 C.F.R. § 1.104(c), "If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected." This rule requires that the Examiner at a minimum identify the claims subject to each ground of rejection.

When rejecting any claim, the Examiner is required to state the reason for such rejection. 35 U.S.C. § 132. Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection. *Chester v. Miller*, 906 F.2d 1574, 1578, 15 U.S.P.Q.2d 1333, 1337 (Fed. Cir. 1990). Under 37 C.F.R. § 1.104(c), "If the invention is not considered patentable, or not considered patentable as claimed, the claims, or those considered unpatentable will be rejected. . . . The pertinence of each reference, if not apparent, must be clearly explained and *each rejected claim specified*." (emphasis added) Section 707.07(i) of the M.P.E.P. sets forth, "In every letter, each pending claim should be mentioned by number, and its treatment or status given." Accordingly, to state a valid rejection the Examiner must, at a minimum, specify by number the claims subject to each ground of rejection. The failure of the Examiner to identify by number the claims that may stand rejected results in a statement that is so uninformative that it prevents Applicants from recognizing and seeking to counter the grounds for rejection. As the purported rejection fails to identify the claims rejected by number, the purported rejection fails to comply with the requirements of 35 U.S.C. § 132, 37 C.F.R. § 1.104(c) and M.P.E.P § 707.07(i).

The Examiner has failed to provide information on which a *prima facie* case of obviousness could be based under 35 U.S.C. § 103(a).

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

*Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459, 467 (1966).

The Examiner has utterly failed to conduct the second inquiry set forth in *Graham v. Deere*. The Office Action includes no inquiry into the differences between the prior art and the claims at issue. "Ascertaining the differences between the prior art and the claims at issue requires interpreting the claim language." M.P.E.P. § 2141.02. The Examiner makes no attempt to interpret the claim language. The Examiner makes no attempt to determine whether *the pending claims* are obvious in view of the cited prior art. Rather, the Examiner merely asserts what he feels the applied references teach. The Office Action includes no showing that applied references teach all of the limitations of any of the pending claims. Thus, the Office Action provides insufficient information on which to base a *prima facie* case of obviousness.

Applicants respectfully submit that, notwithstanding the accuracy of the Examiner's characterization of the applied references or applicability of any of these references against the pending claims, for the above reasons the Office Action fails to state a *prima facie* case of obviousness. Therefore, Applicants respectfully request that this rejection under 35 U.S.C. § 103(a) be withdrawn.

#### **I. Response to Examiner's Administrative Requirement**

Applicants respectfully traverse the requirements imposed by the Examiner in the Office Action at page 243.

The Examiner requires Applicants to either:

- (1) file terminal disclaimers in each of the related 329 applications terminally disclaiming each of the other 329 applications; or
- (2) provide an affidavit attesting to the fact that all claims in the 329 applications have been reviewed by applicant and that no conflicting claims exist between the applications; or
- (3) resolve all conflicts between claims in the related 329 applications by identifying how all the claims in the instant application are distinct and separate inventions from all the claims in the above identified 329 applications.

In addition, Examiner states that failure to comply with any one of these requirements will result in abandonment of the application.

Applicants traverse this requirement for the reasons stated in Section II C of the Amendment and Request for Reconsideration filed September 18, 1998 in application number 08/470,571. Further, Applicants have fully responded to the re-imposition of this requirement in the Petition To The Commissioner Under 37 C.F.R. § 1.181 filed March 7, 2000, which requests, *inter alia*, that this improper requirement be withdrawn.

**J. Response to Obviousness-Type Double Patenting Rejection**

Applicants respectfully request that the Examiner reconsider and withdraw his rejection based on obviousness-type double patenting on two separate grounds.

1. The Examiner has totally confused and misapplied the established law of double patenting and, further, has failed to follow the mandates of the Manual of Patent Examining Procedure as to double patenting rejections.
2. The Examiner has also failed to analyze the pending claims on a limitation-by-limitation basis to demonstrate that no patentable distinctions exist between the pending claims and those in the issued Harvey patents.

**1. PTO Assertions in Office Action mailed January 7, 2000**

The Examiner has rejected claims 3-138 of the application under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 4,684,490 (Harvey I); claims 1-5 of U.S. Patent No. 4,704,725 (Harvey II); claims 1-25 of U.S. Patent No. 4,965,825 (Harvey III); claims 1-26 of U.S. Patent No. 5,109,414 (Harvey IV); claims 1-71 of U.S. Patent No. 5,233,654 (Harvey V); and claims 1-56 of U.S. Patent No. 5,335,277 (Harvey VI), in view of at least one or more of a list of over 30 prior art references from pages 244-252.

In the Office Action, the Examiner rejects 3-138 under obviousness-type double patenting as being unpatentable over any single claim or combination of claims are “no more than an obvious variation of the patented claims when the teachings discussed throughout this action are considered.” (Office Action at 252.) The Examiner attempts to assert a catch-all rejection by incorporating all arguments and allegations discussed throughout the pages of the Office Action. Again, the Examiner provides no authority for this sweeping new ground for rejecting claims under obviousness-type double patenting.

The Examiner’s application of obviousness-type double patenting standard represents an erroneous and misapplied interpretation of existing case law and is contrary to patent examining procedure. First, the Examiner has confused and misapplied the established law of double patenting and has failed to follow the mandates of the M.P.E.P. as to double patenting rejections. Secondly, the Examiner has also failed to analyze the pending claims on a limitation-by-limitation basis to demonstrate that no patentable distinctions exist between the pending claimed and those issued in the Harvey patents as required by the M.P.E.P.

Based on the following discussion, Applicants respectfully request the withdrawal of these rejections.



## 2. The Scope of the Double Patenting Doctrine

The prohibition against double patenting is a judicial doctrine based on the language of 35 U.S.C. § 101, which specifies that an inventor who invents “any new and useful process, machine, manufacture, or composition of matter...may obtain a patent therefor.” In *Miller*<sup>1</sup>, the U.S. Supreme Court held the term “a patent” to mean, “two valid patents for the same invention cannot be granted either to the same or to a different party.”<sup>2</sup> Therefore, the claims in a second patent must be patentably distinct from the claims in a first patent or the second patent would be an improper extension of the first.

As the preclusion is to obtaining two patents on the same invention or an obvious modification of the same invention, the sole question is whether by examining the scope of the claims, one has attempted to claim the same subject matter twice, or an obvious variation. No prohibition exists against a second patent on subject matter that is disclosed but not claimed in the first patent.

Under 35 U.S.C. § 120, a patent applicant may submit additional claims in a subsequent application which are supported by the disclosure in the original applications’ specification. A proper continuation application and its original application are considered “parts of the same transaction, and both as constituting one continuous application, within the meaning of the law.”<sup>3</sup> Furthermore, 35 U.S.C. § 120 does not place a definite time limit on filing a continuing application. Rather, all that is required to preserve an earlier effective filing date as to common subject matter is copendency or a continuous chain of copendency.

The double patenting doctrine prevents an extension of a patent term which would occur if successive patents were allowed on the same invention or obvious variants.

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<sup>1</sup> *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894).

<sup>2</sup> *Id.* at 197.

<sup>3</sup> *In re Hogan*, 449 F.2d 595, 603 (CCPA 1977)(quoting *Godfrey v. Earnes*, 68 U.S. 317, 325-6 (1864)).

However, if two patents contain the same disclosure, but claim different inventions or nonobvious variations, double patenting does not exist.

### 3. Patent Office Procedure

The U.S. Patent and Trademark Office (“PTO”) has specified a procedure in the Manual of Patent Examining Procedure (M.P.E.P.) for Examiners to follow in establishing a *prime facie* case of double patenting. In determining whether a proper basis exists for a double patenting rejection, the Examiner must determine whether:

1. A double patenting rejection is prohibited by the third sentence of 35 U.S.C. § 121 related to divisional applications,
2. A statutory basis exists (i.e., whether same-invention double patenting is present), or
3. A non-statutory basis exists (i.e., whether obviousness-type double patenting is present).<sup>4</sup>

Assuming the application is not a divisional application, the Examiner must establish in step 2 that the same invention is being claimed twice. The Court specified in *In re Vogel*, 422 F.2d 438, 164 U.S.P.Q. 619 (C.C.P.A. 1970), that in determining same-invention double patenting analysis, one must ask “is the same invention being claimed twice?...[The] “invention” here means what is defined by the claims, whether new or old, obvious or unobvious....By the “same invention” we mean identical subject matter.”<sup>5</sup> The court stated “that claims may be differently worded and still define the same invention.”<sup>6</sup> In conclusion, the court found “the only objective test” for same-invention double patenting as,

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<sup>4</sup> M.P.E.P. § 804.

<sup>5</sup> *In re Vogel*, 422 F.2d at 441.

<sup>6</sup> *Id.*

whether one of the claims could be literally infringed without literally infringing the other. If it could be, the claims do not define identically the same invention.<sup>7</sup>

If there is no same-invention double patenting, then the Examiner must establish in step 3 obviousness-type double patenting wherein the grant of a patent with the claims in the application would unjustly extend the rights granted by the first patent.

#### 4. Nonstatutory Double Patenting

In defining nonstatutory double patenting, the M.P.E.P. provides three types of nonstatutory-type double patenting based on the judicial doctrine, which include one-way obviousness, two-way obviousness<sup>8</sup>, and nonobviousness rejections.<sup>9</sup>

Under the M.P.E.P. requirements, if the application at issue is the later filed application, only a one-way determination of obviousness is needed to resolve the issue of double patenting. The issue to be determined is whether the invention defined in a claim in the application is an obvious variation of the invention defined in a claim of the patent. *See, e.g., In re Berg*, 46 U.S.P.Q.2d 1226 (Fed. Cir. 1998). The M.P.E.P mandates that unless a claimed invention in the application is obvious over a claimed invention in the patent, an Examiner should make no double patenting rejection of the obviousness-type. Thus, the sole issue is the scope of the inventions as defined by the claim language in the patent and later filed application.

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<sup>7</sup> *Id.*

<sup>8</sup> A two-way obviousness double patenting rejection arises in the specific instance where the claims of a patent application are being compared with the claims of a later filed but earlier issued patent. This is not the case with respect to the present double patenting rejection.

<sup>9</sup> M.P.E.P. § 804. Nonobviousness-type double patenting rejections arise in circumstances as described in *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). With respect to the instant application, a nonobviousness-type double patenting rejection was made on February 6, 1997, and withdrawn in the Office Action mailed on March 31, 1998.

**a) Standard for Determining One-Way Obviousness-Type Double Patenting**

*In re Kaplan*<sup>10</sup>, the Federal Circuit specified that an obviousness-type double patenting rejection rests on the prohibition against issuance of a second patent that would continue protection, beyond the expiration date of the first patent, or a mere variation of the previous patented invention that would have been obvious to those of ordinary skill in the relevant art.

Thus, in establishing a *prima facie* case of obviousness-type double patenting, the Examiner must,

1. Identify the inventions claimed in the claims under consideration and in the patent claims,
2. Establish that any variation(s) between the inventions claimed in the claims under consideration and the earlier-issued patent claims would have been obvious to person of ordinary skill in the art, and
3. Establish a *prima facie* case of obviousness.<sup>11</sup>

To summarize, the Examiner must show that (1) the inventions claimed (2) are not patentably distinct based on (3) a *prima facie* showing of obviousness. Instead, the Examiner has provided bald statements that obvious variations exist. The mere finding that the claims themselves are obvious variations, without establishing that the alleged variations would have been obvious, cannot properly support an obviousness-type double patenting rejection.

In the Office Action under paragraphs 22-23, the Examiner has failed to establish a *prima facie* showing of obviousness-type double patenting in the rejection of 3-138. In particular, the Examiner has not identified the scope of the inventions of the instant

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<sup>10</sup> *In re Kaplan*, 789 F.2d 1574, 229 USPQ 678 (Fed. Cir. 1986).

<sup>11</sup> *See In re Longi*, 759 F.2d 887, 225 USPQ 645, 651 (Fed. Cir. 1985) (Examiner must provide *prima facie* case of obviousness for obviousness-type double patenting rejection. The burden then shifts to the Applicant to rebut the *prima facie* case).

application and the patents as determined by the claims. Secondly, the Examiner has not positively identified any variations in the claims of the instant application and the claims of the patent. Examiner has provided broad allegations that obvious variants exist, but fail to specifically state these allegedly obvious variants. Thirdly, the Examiner has not shown a *prima facie* case of obviousness under the requirements of 35 U.S.C. § 103. The Examiner has not indicated proper motivation in making the alleged obvious modifications. Since no motivation is provided, it may follow that the variations are not obvious. Moreover, monopolies would not be extended on the same claimed invention.

**(1) Identifying the Inventions Claimed**

**(a) Scope of the Inventions as Defined by the Claim Language**

The C.C.P.A. in *In re Vogel*<sup>12</sup> summarized this step by asking, “does any claim in the application define merely an obvious variation of an invention disclosed and claimed in the patent?”<sup>13</sup> The analysis is based on what the claim defines, and not merely the claim language itself. This first step in the analysis should not focus on what the claim language *discloses*, but on rather what the claim language *defines*.<sup>14</sup> As noted by the Federal Circuit,

it is important to bear in mind that comparison can be made only with what invention is *claimed* in the earlier patent, paying careful attention to the rules of claim interpretation to determine what invention a claim *defines* and not looking to the claim for anything that happens to be mentioned in it *as though it were a prior art reference*.<sup>15</sup>

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<sup>12</sup> *In re Vogel*, 422 F.2d 438, 164 USPQ 619.

<sup>13</sup> *Id.*, 164 USPQ at 622.

<sup>14</sup> *General Foods Corp. v. Studiengesellschaft Kohle mbh*, 972 F.2d 1272, 23 USPQ 1893, 1845 (Fed. Cir. 1992).

<sup>15</sup> *Id.*, 972 F.2d at 1280.

[T]he fundamental rule of claim construction, that what is claimed is what is *defined by the claim taken as a whole*, every claim limitation...being material<sup>16</sup>

...

[P]atent claims are looked to only see what *has been patented*, the subject matter which *has been protected*, not for something one may find to be disclosed by reading them<sup>17</sup>

Rather than identifying the scope of the inventions as defined by the claims, the Examiner has assumed an obviousness-type double rejection based on two claims in separate applications supported by the same embodiment of the applications' common specification, as set forth in paragraph 23. The basis for the Examiner's obviousness-type double patenting rejection is premised on a common embodiment. There is no statutory basis for this improper interpretation of obviousness-type double patenting.

The Examiner's "same embodiment" basis for obviousness-type double patenting is erroneous for at least the following reasons. First, two claims in two separate applications may find support in the same embodiment while claiming inventions that are patently distinct. An embodiment as described by a common specification and drawings may fully disclose a wide range of details and limitations. However, it may not follow that separate claims, which are supported by a common embodiment, are also identical in scope, as assumed by the Examiner. Second, by relying on a common embodiment, the Examiner has improperly treated the specification as prior art. Finding a claimed invention to be an obvious variation of patented claims by treating the patent disclosure

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<sup>16</sup> *Id.*

<sup>17</sup> *Id.* citing *In re Aldrich*, 398 F.2d 855, 859, 158 USPQ 311, 314 (CCPA 1968).

as though it is prior art has been repeatedly held as impermissible.<sup>18</sup> The use of an applicant's invention disclosure as prior art against him is improper.<sup>19</sup> By broadly rejecting pending claims under obviousness-type double patenting without analyzing the claims of the inventions, the Examiner has misapplied and confused the law of obviousness-type double patenting.

**(b) Proper Use of Specification**

Because the obviousness-type double patenting rejection requires claim interpretation, the Examiner may use the specification in a limited capacity to assist in interpreting what the claim language defines. The patent disclosure cannot be used as prior art, but the disclosure can be used to (1) determine the meaning of terms in a claim and may also be used as required to (2) answer the above question, "whether the claim in the application defines merely an obvious variation of the invention disclosed and claimed in the patent."<sup>20</sup> With respect to "the invention disclosed and claimed in the patent," the Federal Circuit stated in *Vogel*,

We recognize that it is difficult, if not meaningless, to try to say what is or is not an obvious variation of a claim. A claim is a group of words defining only the boundary of the patent monopoly....The disclosure, however, sets forth at least one tangible embodiment within the claim, and it is less difficult and more meaningful to judge whether that thing has been modified in an obvious manner. It must be noted that this use of the disclosure is not in contravention of the cases forbidding its use as prior art, nor is it applying the patent as a reference under 35 U.S.C. § 103, since only the disclosure of the invention claimed in the patent may be examined.<sup>21</sup>

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<sup>18</sup> *In re Kaplan*, 229 USPQ at 683.

<sup>19</sup> *Id.*

<sup>20</sup> *In re Vogel*, 422 F.2d at 441.

<sup>21</sup> *Id.*, 422 F.2d at 442.

Therefore, it is proper to identify the invention claimed in the patent by using *exclusively only the portion(s) of the disclosure supporting the claimed invention.*

Alternately, it is improper to make a double patenting rejection when the rejection relies on specification support other than the specific portion(s) of the disclosure supporting the claimed invention.

It has been repeatedly held that use of disclosure of a patent cited in support of a double patenting rejection cannot be used as through it were prior art, even where the disclosure is found in the claims. *See, e.g., Braat*, 937 F.2d at 594 n.5, 19 U.S.P.Q. at 1293 n.5 (“The patent disclosure must not be used as prior art”); *Vogel*, 422 F.2d at 442, 164 USPQ at 622 (in considering obviousness-type double patenting, “the patent disclosure may not be used as prior art”); *In re Plank*, 399 F.2d 241, 242, 158 U.S.P.Q. 328, 329 (C.C.P.A. 1968) (“Its claims are used as the basis for a double patenting rejection. It is not a prior art reference”); *In re Aldrich*, 398 F.2d 855, 859, 158 U.S.P.Q. 311, 314 (C.C.P.A. 1968) (“[P]atent claims are looked to only to see what has been patented, the subject matter which has been protected, not for something one may find to be disclosed by reading them.”)

In the instant case, the Examiner has improperly relied on the specification in making the obviousness-type double patenting rejection. Whether support is provided for the claim language is an issue separate from the scope of the claims in the determination of a double patenting rejection. The Examiner has confused the issue of claim support with the issue of claim interpretation in determining whether obviousness-type double patenting exists. Claim interpretation is limited to what the claim language defines as the scope of the invention. By doing so, the Examiner has relied on specification support



other than the specific portions of the disclosure supporting the claimed invention.

Applicants have failed to follow the mandates as expressed in the M.P.E.P. thereby failing to establish a *prima facie* case of double patenting of the obviousness-type.

According to *In re Vogel*, one must first “determine how much of the patent disclosure pertains to the invention claimed in the patent” because only “[t]his portion of the specification supports the patent claims and may be considered.” The Examiner has disregarded this critical step in his analysis of the obviousness-type double patenting rejection.

**(c) Best Mode**

The scope of the invention is determined by the claim language. The best mode disclosed in the specification as interpreted by the Examiner does not define the boundaries of the claims when determining double patenting of the obviousness-type. Examiner has again improperly relied on the specification to interpret the scope of the invention while failing to analyze the pending claims on a limitation-by-limitation basis to demonstrate that no patentable distinctions exist between the pending claims and those in the issued Harvey patents.

In *In re Schneller*, 397 F.2d 350, 158 U.S.P.Q. 210 (C.C.P.A. 1968), the Schneller patent disclosed elements A, B, C, X, and Y as the best mode and claimed A, B, C, and X which covered other features incorporated in the claim because of the term “comprising”, thus effectively covering the combination A, B, C, X, and Y. The later filed application claimed elements A, B, C, and Y and elements A, B, C, X, and Y. Thus, making the new combination would merely exercise skill or ingenuity expected of a person with ordinary skill in the art because X and Y were both known in the art.

The court in *In re Schneller* noted the uniqueness of the factual circumstances surrounding the element composition of the application which involved the substitution

of element X for element Y, rather than the addition or subtraction of an element from the patent's claims.<sup>22</sup> The court went on to state that "[this] is not a case of an improvement or modification invented after filing . . . Hence it is not the usual 'obviousness-type' double patenting case."<sup>23</sup> Thus, the court limited the applicability of this holding. The Examiner has not offered any proof that *Schneller*'s use of the disclosed best mode may be properly applied to the facts of the instant application. More specifically, the instant case does not involve the substitution of one element (X) for another element (Y) where the rest of the claimed subject matter (ABC) is well known and where the two elements (X and Y) are also known in the art.

While *In re Schneller* relied on a disclosed best mode of ABCXY in finding a non-statutory double patenting rejection, the Examiner's use of a best mode to find all variations obvious is unwarranted. An allegation of an improper extension of a unified system monopoly cannot be supported without examining the scope of the claims. In *In re Schneller*, the court specifically cited and analyzed both the claims in the patent and the elements in the claims in the *Schneller* application. The court then clearly demonstrated how the claims in the patent read on the claims in the application to support the double patenting rejection. The Office Action fails to provide such an analysis.

**(d) Means Plus Function**

In interpreting "means plus function" language, the Federal Circuit held *In re Lonardo*, 119 F.3d 960, 43 U.S.P.Q.2d 1262 (Fed. Cir. 1997) that under 35 U.S.C. § 112, sixth paragraph<sup>24</sup>, correct interpretation of the means plus function element must be in light of the disclosed structure for implementing the function, and in a manner that is

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<sup>22</sup> 397 F.2d at 353-54.

<sup>23</sup> *Id.*

<sup>24</sup> See *In re Donaldson*, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1849 (Fed. Cir. 1994).

expressly recited in the claim.<sup>25</sup> The PTO must apply 35 U.S.C. §112, sixth paragraph, in appropriate cases, and give claims their broadest reasonable interpretation in light of and consistent with the written description of the invention in the application.<sup>26</sup>

**(2) Establishing Variations between the Invention Claimed  
and the Invention Defined in the Patent Claims**

Based on the proper identification of each of the inventions, *supra*, the Examiner then must identify the variation(s) between the inventions being claimed in the application and the invention as defined by the claims in the patent.

As discussed above, the Examiner has not properly identified the inventions. In fact, the Examiner has failed to analyze and interpret the claims on a limitation-by-limitation basis to demonstrate that no patentable distinctions exist between the pending claims and those in the issued Harvey patents. Rather, in an attempt to address the variations between the inventions, the Examiner provides broad allegations that “no pending claim is more than an obvious variation....” (Office Action at 252.) However, the Examiner has failed to specifically identify these variations. Such blanket assertions do not fulfill the requirement of identifying variations between the invention claimed and the invention defined by the patent claims, as mandated by the M.P.E.P.

As to paragraph 23, the Examiner presents a weak attempt at establishing variations between the invention claimed and the invention defined in the patent claims. More specifically, the Examiner states that “[t]he differences [are] suggested by the prior art.” (Office Action at 253.) The Examiner erroneously believes that incorporating any differences merely **suggested** (and not necessarily explicitly stated) by any and all prior art discussed throughout entire Office Action is proper. The Examiner is required to identify the variations between the inventions being claimed and the invention as defined

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<sup>25</sup> *In re Lonardo*, 43 USPQ2d at 1267.

<sup>26</sup> *In re Donaldson*, 16 F.3d at 1194.

by the patent claims. Placing the burden on Applicants to sift through the Office Action to locate any and all discussions of the differences suggested, explicitly and/or implicitly, by the prior art is contrary to law. There is no statutory basis for Examiner's version of identifying variations between the sets of claims at issue.

Applicants provide Appendix B herewith, which identify Applicants' patentable subject matter of the instant claims over specific Applicants' patented claims in response to Appendix A of the Office Action.

**(3) Variations Would Have Been Obvious to a Person of Ordinary Skill in the Art**

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966) that establish a background for determining obviousness under 35 U.S.C. § 103 are employed when making an obviousness-type double patenting analysis. However, the "patent principally underlying the double patenting rejection is not considered prior art."<sup>27</sup> The factual inquiries are summarized as follows:

- (A) Determine the scope and content of the patent claim and the prior art relative to the claim in the application at issue;
- (B) Determine the differences between the scope and content of the patent claim and the prior art as determined in (A) and the claim in the application at issue;
- (C) Determine the level of ordinary skill in the pertinent art; and
- (D) Evaluate any objective indicia of nonobviousness.<sup>28</sup>

Additionally, the Federal Circuit held in *Kaplan* that obviousness-type double patenting rejections must include clear evidence to establish why an alleged variation of an invention claimed in a prior patent would have been obvious.

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<sup>27</sup> *In re Longi*, 759 F.2d at 892, n.4 (citing *In re Braithwaite*, 379 F.2d 594, 600 n.4, 54 CCPA 1589, 154 USPQ 29 (CCPA 1967)).

<sup>28</sup> M.P.E.P. § 804 (II) B (1).

[T]here must be some clear evidence to establish why the variation would have been obvious which can properly qualify as “prior art.” Even if obviousness of the variation is predicated on the level of skill in the art, prior art evidence is needed to show what the level of skill was.<sup>29</sup>

Otherwise, if no clear prior art evidence establishes that the variation(s) in the application claims are obvious over the invention defined by the claims of the patent, one can assume that the characteristic of the claims including the variation(s),

appear that the invention covered by the later patent was a separate invention, distinctly different and independent from that covered by the first patent; in other words, it must be something substantially different from that comprehended in the first patent. It must consist in something more than a mere distinction of the breadth or scope of the claims of each patent.<sup>30</sup>

As discussed above, the Examiner has failed to properly identify the inventions as claimed and has further failed to identify the variations as required for a proper obviousness-type double patenting rejection. Nonstatutory double patenting is intended to prevent prolongation of the patent term by prohibiting the extension of patent monopolies in successive patents. While the prohibition of extending patent monopolies is a policy concern, a statement of motivation for establishing obviousness under 35 U.S.C. § 103 is nevertheless lacking. Because Examiner has not provided any evidence that establishes that the variations are obvious over the invention as defined by the claims, the claims of the instant application may be assumed to be a separate and distinct invention.

Under paragraph 30, in an attempt to address the obviousness of the variations, the Examiner states that “[t]he provision of any such differences would have been obvious for the benefit of providing greater functionality to the user” (Office Action at

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<sup>29</sup> *Id.* at 683.

<sup>30</sup> *Miller v. Eagle Mfg. Co.*, 151 U.S. at 198.

144.) The Examiner provides a single statement of motivation to address any differences without positively identifying the differences.

This statement lacks the proper motivation for establishing obviousness under 35 U.S.C. § 103 for at least the following reasons. First, “for the benefit of providing greater functionality to the user” does not answer the question of whether the differences would have been obvious to one of ordinary skill in the art. This attempt at providing motivation fails to take into consideration the level of ordinary skill at the time of the invention. To determine whether greater functionality provides adequate motivation, the Examiner should take into consideration (among other things) the level of ordinary skill in the art, as expressly provided in M.P.E.P § 804 (II)B(1) and *Graham v. John Deere Co.*<sup>31</sup> A proper motivation statement takes into consideration what would have been obvious to someone with ordinary skill in the art at the time of the invention. Without this determination, a modification cannot be deemed obvious for “greater functionality”. Examiner attempts to provide the level of ordinary skill in the art on pages 123-128. However, the Examiner nevertheless fails to provide a teaching as to how the differences would have been obvious. A variation may not be assumed to be obvious merely because greater functionality is alleged to be provided. The Examiner has failed to provide a proper statement of motivation.

Second, Examiner’s statement of motivation is overly broad. The statement of “greater functionality to the user” does not adequately provide a teaching to one of ordinary skill in the art. According to the Examiner’s reasoning, any and all differences between sets of claims, whether novel or not, will be considered obvious due to “greater functionality”. The Examiner’s version of motivation is improper and erroneous.

Third, while a variation provides “greater functionality”, it may also be considered novel and non-obvious. For example, while an improvement on a widget provides

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<sup>31</sup> 383 U.S.1, 148 USPQ 459 (1966).

“greater functionality”, the improvement may just as well be novel and therefore merit patent protection. Non-obvious improvements provide “greater functionality” to the user. Likewise, a mere change in color may also provide greater functionality to the user. However, based on the level of ordinary skill in the art at the time of the invention, a mere color change may be considered to be an obvious variation. Because Examiner’s version of motivation may be construed in two dynamically different ways, the motivation statement of providing “greater functionality to the user”, as applied to “any such differences” is clearly deficient.

## **5. Conclusion**

The Examiner’s basis for the double patenting rejections is inconsistent with the Patent Office Procedures found in the M.P.E.P. The Examiner has fatally misapplied and confused the established law of double patenting. The belief that if two claims in separate applications are supported by the same embodiment in the application’s common specification as being a *prima facie* basis for obviousness-type double patenting rejections is not supported by the rules and procedures as set forth in the M.P.E.P. Furthermore, the Examiner has not cited any case law or any other authority, for that matter, for this erroneous basis.

To establish a proper obviousness-type double patenting rejection, the PTO must show that (1) the inventions claimed (2) are not patentably distinct and (3) are based on a *prima facie* showing of obviousness. According to § 804 of the M.P.E.P, any obviousness-type double patenting rejection should make clear the differences between the inventions defined by the conflicting claims; and the reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the patent. As discussed above,

the Examiner has not identified the claimed inventions; established variations; or shown that variations would have been obvious to a person of ordinary skill in the art.

Therefore, the Examiner has failed to properly establish a *prima facie* basis for a double patenting rejection of the obviousness type. Applicants respectfully request withdrawal of the rejection of all pending claims.

### III. CONCLUSION

In accordance with the foregoing it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. Further, all pending claims are patentably distinguishable over the prior art of record, taken in any proper combination. Thus, there being no further outstanding objections or rejections, the application is submitted as being in a condition for allowance, which action is earnestly solicited.

If the Examiner has any remaining informalities to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such informalities.

Respectfully submitted,



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**APPENDIX A**

**SPECIFICATION SUPPORT**

**TO**

**PARENT 1981 APPLICATION**

**AND**

**INSTANT APPLICATION**

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language

<u><b>First Embodiment:</b></u>				
3. A method of processing signals to control	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 18 lines 24-27.</p> <p>page 450 line 27 to page 451 line 11.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the</p>

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language	
					aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
receiving a television signal containing television programming and communicating said television signal to a storage device;	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio <b>generated</b> graphic is pictured.	Page 25 lines 26-33.		During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio <b>generated</b> graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.		... an instruction signal is ... embedded in the programming transmission, and transmitted.
	Column 19 lines 20-27.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 436 line 9 to page 437 line 6.		Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said

Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.	Language
Reference	Reference	Reference	Language
			<p>microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>
	<p>Then, in a predetermined fashion, microcomputer, <b>205</b>, may</p>	<p>Page 439 lines 9-15.</p> <p>Page 439 lines 9-15</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>	
	<p>instruct tuner, <b>214</b>, to switch box, <b>201</b>, to channel X</p> <p>and may instruct and may instruct control system, <b>220</b>, to turn video recorder, <b>217</b>, on and record "Wall Street Week," ...</p>		

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
receiving a first instruct signal which is effective to instruct a computer at a user station to supplement or	Column 19 lines 60-62.	At this point, an instruction signal is <b>generated</b> in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... <b>upon command.</b>	Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 23 line 35 to page 24 line 16.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
complete said television programming at an output device;			Page 44 lines 14-17.	system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
			Page 26 lines 20-28.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."		(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes a subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
			Page 26 lines 1-2.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
			Page 26 lines 4-11.	by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 451 line 3.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
selecting one of:	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	And the Fig. 1C combining is displayed.
(1) a time at which to communicate said first instruct signal; and	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	Page 451 lines 6-7.  Page 23 line 35 to page 24 line 4.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page	In each decoder, the controller, 39, 44, or 47,

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
			38 line 8.	receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 24 lines 5-6.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
			Page 451 lines 7-9.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...
	<u>OR</u> Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	<u>OR</u> Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.



Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
(2) a location to which to communicate said first instruct signal;	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
	Column 19 lines 43-44.  Column 3 lines 6-8.  <i>For example:</i> Column 4 lines 18-22.  <i>Or:</i> Column 4 lines 25-26.	... instruction signals embedded in the "Wall Street Week" programming transmission.  Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.  In television audio, they are likely to lie between eight and fifteen kilohertz.	Page 21 lines 23-24.  Page 14 line 35 to page 15 line 2.  <i>For example:</i> Page 14 lines 6-11.  <i>Or:</i> Page 14 lines 14-15.	... instruction signals embedded in the "Wall Street Week" programming transmission.  Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.  In television audio, they are likely to lie between eight and fifteen kilohertz.
communicating said first instruct signal at said selected time or	Column 19 lines 62-63  Column 19 lines 46-53.	... and [the instruction signal] is transmitted in the programming transmission.  When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 25 line 34 to page 26 line 1.  Page 23 line 35 to page 24 line 16.	... an instruction signal is ... embedded in the programming transmission, and transmitted.  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named

Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.	Language
Reference	Reference	Reference	Language
		<p>FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of</p>	<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p><b>OR</b> Page 25 line 33 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
to said selected location; and	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	<p>Page 26 line 4.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 21 lines 23-24.</p> <p>Page 14 lines 6-11.</p>	<p>signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.		Said signal instructs microcomputer, 205, ...
	Column 4 lines 18-22.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.		... an instruction signal is ... embedded in the programming transmission, and transmitted.
	Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...		... instruction signals embedded in the "Wall Street Week" programming transmission.
storing said television signal and	Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.	<p>... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>
said instruct signal at	Column 19 lines 43-44.	... instruction signals embedded in the	Page 21 lines 23-24.	... instruction signals embedded in the "Wall

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
said storage device.		Column 16 lines 25-32.	"Wall Street Week" programming transmission. One particular advantage of these methods ... is that, by locating the ... signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.  One particular advantage of these methods ... is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.	Street Week" programming transmission.
<u>Second Embodiment:</u>					
3. A method of processing signals to control		Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.  Page 25 line 34 to page 26 line 1.  Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
a presentation, said method comprising the steps of:		Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia	Page 18 lines 24-27.  Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and	

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
		presentation at one time in one place.	page 450 line 27 to page 451 line 11.	controlling combined medium, multi-channel presentations.  (To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
receiving a television signal containing television programming and	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio <b>generated</b> graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio <b>generated</b> graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
communicating said	Column 20 lines 48-49.	... and thence to printer, 221, for printing.	Page 475 lines 1-2.	Receiving said output information causes

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
television signal to a storage device;	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	<p>printer, 221, to print the information of said specific recipe and list.</p> <p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p>
	Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
receiving a first instruct signal which is effective to instruct a computer at a user station to supplement or	<i>In General</i> Column 17 lines 39-46.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are <b>addressed</b> , and transfer such signals to such equipment as <b>directed</b> . This permits many valuable techniques for facilitating the operation of such external equipment.	<i>In General</i> Page 15 lines 16-23.  Page 34 lines 24-26.  Page 44 lines 14-15.  Page 95 lines 18-21.	<p>The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which said signals are <b>addressed</b>, and outputs said signals to said apparatus ...</p> <p>A command is an instance of signal information that is <b>addressed</b> to particular subscriber station apparatus and that ...</p> <p>Receiving the header and execution</p>

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	Reference	Language	Reference	Language
				segment of said first message causes controller, 39, to determine that said message is <b>addressed</b> to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
			Page 390 lines 26-29.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.
	<i>More particularly,</i> Column 18 lines 1-2.	Decoder, 203, transfers all received signals to processor or monitor, 204, ...	<i>More particularly,</i> Page 400 lines 3-4	Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to ...
			Page 35 lines 11-15	... the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which...
			Page 35 lines 24-27	... said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.
			Page 35 lines 28-31	... separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39.
	Column 18 lines 2-4	[processor or monitor, 204] ... identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.	Page 400 lines 6 - 18 See Fig. 3A regarding the composition of controller 39	Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to locate the Weather-Bulletin-125 identification information of said message; to determine that said information does not match particular

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
	<p><i>Specifically</i> Column 19 lines 63-64.</p>	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 37 line 28 to page 38 line 8</p>	<p>information at particular last-weather-bulletin-identification RAM associated with said control processor, 39J; to input the information of the information segment of said message to the CPU of microcomputer, 205; to retain information of said Weather-Bulletin-125 identification information at said last-weather-bulletin-identification RAM; and to cause said CPU to execute the information so inputted as a machine language job.</p> <p>Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>



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complete said television programming at an output device;	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	<p>Page 26 lines 1-2.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-11.</p>	<p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p>

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selecting one of:	Column 19 lines 62-63  Column 19 lines 43-44.	... and [the instruction signal] is transmitted in the programming transmission.  ... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 451 line 3.  Page 25 line 34 to page 26 line 1.  Page 21 lines 23-24.	And the Fig. 1C combining is displayed.  ... an instruction signal is ... embedded in the programming transmission, and transmitted.  ... instruction signals embedded in the "Wall Street Week" programming transmission.
(1) a time at which to communicate said first instruct signal; and	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
(2) a location to which to communicate said first instruct signal;	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...
communicating said first instruct signal at said selected time or to said selected location; and	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the

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		switch, 75, to transfer the programing to the designated recorder/player, 76 or 78, ...		added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
storing said television signal and said instruct signal at said storage device.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programing.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 16 lines 25-32.	One particular advantage of these methods ... is that, by locating the ... signals in the audio and/or video and/or other parts of the programing that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.

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<u><b>Third Embodiment:</b></u>					
3. A method of processing signals to control	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.	
a presentation, said method comprising the steps of:	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.	
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...	
			Page 18 lines 24-27.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.	
			page 450 line 27 to page 451 line 11.	(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the	

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				<p>aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>
receiving a television signal containing television programming and communicating said television signal to a storage device;	Column 19 line 53-56.	<p>Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio <b>generated</b> graphic is pictured.</p>	Page 25 lines 26-33.	<p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio <b>generated</b> graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.</p> <p>... an instruction signal is ... embedded in the programming transmission, and transmitted.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said</p>
	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	
	Column 19 lines 20-27.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 436 line 9 to page 437 line 6.	

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				<p>microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>
		Then, in a predetermined fashion, microcomputer, <b>205</b> , may	Page 439 lines 9-15.	
			Page 439 lines 9-15	
		instruct tuner, <b>214</b> , to switch box, <b>201</b> , to channel X	Page 295 lines 6-8.	
		and may instruct and may instruct control system, <b>220</b> , to turn video recorder, <b>217</b> , on and record "Wall Street Week," ...	Page 445 lines 24-27.	
			Page 446 lines 18-23.	

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receiving a first instruct signal which is effective to instruct a computer at a user station to supplement or	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	At this point, an instruction signal is generated at said program originating studio, ... The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
			Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
			In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that

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complete said television programming at an output device;				subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 451 line 3.	And the Fig. 1C combining is displayed.
	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 25 lines 33-34.  Page 26 lines 1-2.  Page 37 line 26 to page 38 line 8.	Then the host says, "And here is what your portfolio did."  Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert,



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			<p>as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p>	
selecting one of:	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	<p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p> <p>Page 25 line 34 to page 26 line 1.</p>	<p>... an instruction signal is ... embedded in the programming transmission, and transmitted.</p>
(1) a time at which to communicate said first instruct signal; and	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	<p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43,</p>

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				and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 24 lines 5-6.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
			Page 451 lines 7-9.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...
	<u>OR</u> Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	<u>OR</u> Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.

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(2) a location to which to communicate said first instruct signal;	Column 19 lines 43-44.  Column 3 lines 6-8.  <i>For example,</i> Column 4 lines 18-22.	... instruction signals embedded in the "Wall Street Week" programming transmission.  Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.	Page 21 lines 23-24.  Page 14 line 35 to page 15 line 2.  <i>For example,</i> Page 14 lines 6-11.	... instruction signals embedded in the "Wall Street Week" programming transmission.  Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.
	<i>Or</i> Column 4 lines 25-26.	In television audio, they are likely to lie between eight and fifteen kilohertz.	<i>Or</i> Page 14 lines 14-15.	In television audio, they are likely to lie between eight and fifteen kilohertz.
communicating said first instruct signal at said selected time or	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE"

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	<p>Or Column 19 lines 60-65.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, ...</p>	<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p>Or Page 25 line 33 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of</p>

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to said selected location; and					forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 26 line 4.	Said signal instructs microcomputer, 205, ...	
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.	
	Column 4 lines 18-22.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.	
storing said television signal and			Page 14 lines 6-11.	In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.	
	Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.	... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...	
said instruct signal at said storage device.	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 446 lines 18-23.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.	
	Column 16 lines 25-32.	One particular advantage of these methods ... is that, by locating the ... signals in the	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.	
			Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by	

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		audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.		embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
4. The method of claim 3, further comprising one of the steps of: embedding said first instruct signal in said television signal;	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
embedding a code or datum in said television programming that	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned

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				dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 2 lines 63-66.	(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or <b>information message unit</b> . Examples of signal units are a unique code identifying a programming unit, or a ...	Page 14 lines 27-29.	(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or <b>information message unit</b> . Examples of signal units are a unique code identifying a programming unit, or a ...
	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...
			Page 248 lines 22-26	Via a conventional multi-channel cable

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			from example #5.	transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.
			Page 250 lines 13-16 from example #5.	Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...
			Page 252 lines 15-35 from example #5.	Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...
			Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205.



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enables said computer to locate some processor code or control	Column 19 lines 20-25.	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...</p>	<p>Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said</p>
	Page 436 line 9 to page 437 line 6.		

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a presentation of said television programming in accordance with said first instruct signal;				Page 439 lines 9-15.	station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
				Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...
				Page 439 lines 9-15.	...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
				Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
communicating a program unit identification code to said storage device				Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining

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		causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
		SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
		... <b>monitor information that identifies what programming</b> is available, ...
		Meter-monitor segments contain meter information and/or monitor information.
Column 2 lines 63-66.	(The term "signal unit" hereinafter means	(The term "signal unit" hereinafter means one

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and storing said program unit identification code at a storage location associated with said television programming;	Column 11 lines 64-65.  Column 16 lines 25-32.	<p><b>one complete signal instruction or information message unit.</b> Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>... instructs the recorder/player, 76 or 78, to turn on and record the programming.</p> <p>One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.</p>	<p>Page 329 line 15-16.</p> <p>Page 319 lines 23-30.</p>	<p><b>complete signal instruction or information message unit.</b> Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p> <p>One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.</p>
communicating to and storing at said storage device some information	Column 11 lines 57-64.	<p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p>	Page 329 line 2-20.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed</p>

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to evidence	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies</b> what <b>programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Each one of said decoders is preprogrammed to detect and transfer to said onboard</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital	Page 315 lines 20-24.	

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<p>an availability, use, or usage of said television programming, said first instruct signal, or some processor code at a user station;</p>			codes that may identify each programming or data unit received and the source of each.	Page 44 lines 26-32.	<p>controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.</p> <p>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.</p> <p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <ul style="list-style-type: none"> <li>... unique codes for programming; ... and</li> <li>unique codes that identify the sources and suppliers of computer data.</li> </ul> <p>... <b>monitor information that identifies what programming</b> is available, ...</p>
	Column 18 lines 29-41.		FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service.	Page 49 line 26 to page 50 line 20.	<p>In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...</p> <p>... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.</p>
				Page 28 lines 26-27.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information
				Page 411 lines 10-11.	
			TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV	Page 88 lines 19-22.	
				Page 408 lines 18-29.	

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		set, 202, and radio, 209, are tuned,	Page 414 lines 13-27.	<p>of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.</p> <p>Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p>
	The processors, 204 and 210, transfer this information to signal processor, 200,		Page 15 lines 16-22.	
			Page 36 lines 32-33.	
			Page 38 lines 11-14.	
			Page 411 lines 10-15.	

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			Page 418 line 23 to page 419 line 15.	Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.
	for recording and subsequent transmission to a remote data collection site.		Page 411 line 28 to page 412 line 2.	In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in ...
			Page 173 line 30 to page 174 line 23 from example #3.	The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1 <sup>st</sup> monitor information (#3).")
			Page 419 lines 4-15.	In the fashion described above, receiving said



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		<p>Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a remote site.</p>	<p>Page 28 lines 25-35.</p>	<p>third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p> <p>Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...</p>
storing at said storage device	Column 19 lines 23-27.	<p>... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...</p>	Page 437 lines 1-6.	<p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station-cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p>
a second instruct signal which is effective at a user station to process	Column 19 lines 60 to page 20 line 2.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is</p>	Page 439 lines 9-15.	

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data to generate some output to form the basis for the supplementation or completion of said television programming;		transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.		Page 295 lines 6-8.	
				Page 439 lines 9-15.	
				Page 445 lines 24-27.	
				Page 446 lines 18-23.	
				Page 25 line 34 to page 26 line 2.	
				Page 37 line 26 to page 38 line 8.	
				<p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...  ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;  ...  ... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....  ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p>	

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			Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And the Fig. 1C combining is displayed.
storing at said storage device a second instruct signal which is effective at said user station	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 451 line 3.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.

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	Column 10 line 64 to Column 11 line 1.	At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programing has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93.	Page 325 lines 17-24.	In line between each of the aforementioned receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75.
to display			Page 324 line 31 to page 325 line 2.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, ...
	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said

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		Then, in a predetermined fashion, microcomputer, <b>205</b> , may		program-unit-of-interest information and determines a <b>match</b> with said second instance. Determining a match causes microcomputer, <b>205</b> , automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, <b>20</b> . Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, <b>20</b> , in a predetermined fashion, to prepare particular apparatus ... ...to cause selected apparatus of said station--cable converter box, <b>201</b> , ... to receive the transmission of cable channel <b>13</b> ; ...
		instruct tuner, <b>214</b> , to switch box, <b>201</b> , to channel <b>X</b>	Page 439 lines 9-15.	Then, automatically, controller, <b>20</b> , causes a selected tuner, <b>214</b> , to tune to the frequency of cable channel <b>13</b> , thereby causing its associated converter box, <b>201</b> , to convert its ...
		and may instruct control system, <b>220</b> , to turn video recorder, <b>217</b> , on and record "Wall Street Week,"	Page 295 lines 6-8.	...instructions causes controller, <b>20</b> , ...; to switch power on to video recorder/player, <b>217</b> , ...
		and also microcomputer, <b>205</b> , may instruct switch, <b>216</b> , to turn TV set, <b>202</b> , on	Page 445 lines 24-27.	...controller, <b>20</b> , ... causes recorder/player, <b>217</b> , to record said information of the "Wall Street Week" program.
		and tuner, <b>215</b> , to tune appropriately to "Wall Street Week."	Page 446 lines 18-23.	...instructions causes controller, <b>20</b> , to switch power on to monitor, <b>202M</b> , ... Automatically, controller, <b>20</b> , inputs a particular instruction to decoder, <b>145</b> , via said communications link, that causes decoder, <b>145</b> , to switch power on to monitor, <b>202M</b> , ... ...and to tune monitor, <b>202M</b> , in a predetermined fashion.
			Page 445 line 24 to page 446 line 1.	
			Page 445 line 35 to page 446 line 1.	

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a combined		Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...  And the Fig. 1C combining is displayed.
or sequential presentation of said television programming		Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 451 line 3. Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
and a user specific data;		Column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 25 lines 33-34. Page 26 lines 8-11.	Then the host says, "And here is what your portfolio did."  TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...
storing at said storage device a second instruct signal which is effective at said user station to process		Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed

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a user reaction to said television programming;	Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 471 line 26 to page 472 line 17.	fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.  Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ...
	Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig.	Page 471 lines 6-25.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber

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	1), of signal processor, 200, to hold and process further ...		is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station. Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.
storing at said storage device a second instruct signal which is effective at a said user station	Column 11 lines 57-65.  Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes



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	Column 13 lines 17-20.	The signals that enable the decrypter/interrupter, 101, to decrypt and/or transfer programming uninterrupted may be embedded in the programming or may be elsewhere.	Page 291 lines 9-24	<p>said selected recorder, 76 or 78, to record said programming.</p> <p>In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, ... to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, ... <i>on the frequency of said master control channel</i>. (Hereinafter said message is called the "local-cable-enabling-message (#7).")</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.</p> <p>particular master cable control channel (that <i>may or may not be cable channel 13</i>) from the multi-channel cable system</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p> <p>Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the</p>
			Page 289 lines 22-27	
			Page 290 lines 28-29	
			Page 298 lines 17-21.	
			Page 299 lines 19-22.	

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to communicate to a remote station a query for information to be associated with said television programming or to enable display of said television programming;	Column 15 lines 20-25.	In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.	<p>Page 311 line 33 to page 312 line 8.</p> <p>Page 293 lines 32-35.</p> <p>Page 301 lines 6-9.</p> <p>Page 308 line 35 to page 309 line 3.</p>	<p>aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, ...</p> <p>And for example, determining that a local station is not preprogrammed properly and/or that decryption, ... apparatus are not functioning correctly may cause apparatus of said station ... interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. And for example, the transmitted programming ...</p> <p>At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion....</p> <p>... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly ...</p> <p>At each station where a ... a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly ...</p>
storing at said storage device a second instruct signal which is effective to control said user station to receive information to be used in the supplementation or	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information</p>

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<p>completion of said television programming;\</p>	<p>Column 19 lines 46-53.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.</p>	<p>with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be, loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p>

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	Reference	Language	Reference	Language
			Page 44 lines 14-17.  Page 26 lines 20-28.	<p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>
storing at said storage device	Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 437 lines 1-6.  Page 439 lines 9-15.  Page 295 lines 6-8.	<p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p>

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			Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
			Page 445 lines 24-27.	... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....
			Page 446 lines 18-23.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
	Column 19 lines 27-28.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...	Page 445 line 24 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
a second instruct signal which is effective at a user station to process a digital television signal; and	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 25 line 33 to page 26 line 2..	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber

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				Page 26 lines 4-8.	station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
storing at said storage device	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.		Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.

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a code	Column 2 lines 65-66.	Examples of signal units are a unique code identifying a programming unit, ...	Page 14 lines 27-29.	Examples of signal units are a unique code identifying a programming unit, ...
or datum	Column 17 lines 39- 44.	Signal processor apparatus have the ability to identify instruction and inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.	Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...
to serve as a basis for enabling an output device	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 34 lines 24-26.	... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...
			Page 44 lines 14-15.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...
			Page 95 lines 18-21.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
			Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...
			Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)

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<p>to display at least some of said television programming or said computer to process some processor code.</p>	<p>Column 18 lines 56-58.</p>	<p>... signal processor, 200, to hold examples of the sought for unique signals in its buffer/ comparator, 8, and compare them with all incoming signals.</p>	<p>Page 436 line 9 to page 437 line 3.</p>	<p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13, ...</p> <p>The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio ...</p> <p>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And</p>



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				Page 422 lines 33 to Page 423 line 4.	among the news-items-of-interest information at said RAM is an instance of said binary information of "T".  ...said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ...
5. The method of claim 3, wherein said selected location is in said television signal, said method further comprising the step of storing some information at said storage device that evidences one or more of: (1) a title of a television program;	Column 15 lines 62-63.	[The signals for which the decoders are monitoring] may convey unique identifier codes for each program or commercial.  For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 49 lines 26-28.  Page 50 lines 6-7.  Page 319 lines 30-33.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ...unique identifier codes for each program unit (including commercials); ...  For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	
(2) a use of programming;	Column 18 lines 30-35.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned, ...	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the	

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			<p>Page 414 lines 13-27</p> <p>Page 15 lines 16-22</p> <p>Page 411 lines 10-15</p> <p>Page 418 line 23 to page 419 line 15.</p>	<p>above escribed fashion.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ...</p> <p>Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p>

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(3) a transmission station;		Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(4) a receiver station;		Column 16 lines 45-47.	This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.	Page 320 lines 27-31.	So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131....
(5) a network;		Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 319 lines 30-33.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.
(6) a broadcast station;		Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(7) a channel on a cable system;		Column 16 lines 35-39.	Recorder, 135, might receive the programming over Manhattan Cable TV channel 4 and record the programming from 7:00 PM to 7:30 PM on the evening of July 15, 1985.	Page 319 line 33 - Page 320 line 2.	Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985.
(8) a time of transmission;		Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of	Page 49 lines 26-28.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:

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(9) a identification of an instruct signal;		transmission.		Page 50 lines 1-4.
	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.		Page 315 lines 20-24.
				Page 44 lines 26-32.
(10) a source or supplier of data;			... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...	
	Column 15 lines 63-65.	In the case of data transmitted to the micro-computer, [the signals for which the decoders are monitoring] may be unique codes that identify the source and suppliers of the data.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.  Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.  Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.  ... <b>monitor information that identifies what programming</b> is available, ...	Page 49 line 26 to page 50 line 20.
			Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... ... unique codes that identify the sources and suppliers of computer data.	Page 28 lines 26-27.
(10) a source or supplier of data;	Column 15 lines 63-65.	In the case of data transmitted to the micro-computer, [the signals for which the decoders are monitoring] may be unique codes that identify the source and suppliers of the data.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... ... unique codes that identify the sources and suppliers of computer data.	Page 49 lines 26-28.
			Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... ... unique codes that identify the sources and suppliers of computer data.	Page 50 lines 19-20.

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(11) a distributor, or an advertisement; and	Column 15 lines 65-68.	In the case of data received at the printer, [the signals for which the decoders are monitoring] may identify publications, articles, publishers, distributors, advertise ments, etc.	Page 321 lines 1-6.  Page 360 lines 31-34.  Page 496 lines 12-13.  Page 496 lines 28-35.	<p>Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming when said tapes or discs are played. For example, laser disc player, 232, can</p> <p>For example, another of the aforementioned discounts and cents- off coupon specials is of a particular product ... that is advertised ...</p> <p>At printer, 221, the printed so-called "hard copy" of said offer and coupon information emerges as:</p> <p>.....</p> <p>. 15 cents off . 15 cents off .</p> <p>. Nabisco Zweiback Teething Toast .</p> <p>. . . . .</p>	
(12) an indication of a payment obligation.	column 20 lines 49-58.	<p>...and thence to printer, 221, for printing. Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received.</p> <p>Subsequently, when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, that site can determine for billing purposes that the recipe was, first, ordered and, second,</p>	<p>Page 49 lines 26-28.</p> <p>Page 50 lines 14-17.</p>	<p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <p>...unique codes for programming (other than programming identified by program unit codes) whose use obligates users to make payments (eg., royalties and residuals):....</p>	

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			delivered.		
6. The method of claim 3, wherein said first instruct signal is embedded in said television signal, said method further comprising the steps of:	<p>Column 4 lines 5-9.</p> <p>Column 16 lines 25-32.</p>	<p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. ...</p> <p>One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.</p>	<p>Page 13 lines 25-28.</p> <p>Page 319 lines 23-30.</p>	<p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.</p> <p>One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.</p>	
selecting a second one from the group consisting of: (1) a datum that identifies a unit of computer software in said television signal;	<p>Column 3 lines 6-8.</p> <p>Column 19 lines 46-48.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.</p>	<p>Page 14 line 35 to page 15 line 2.</p> <p>Page 23 line 35 to page 24 line 4.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the</p>	

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				relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
(2) a datum that designates an addressed apparatus;	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
(3) a datum that is part of a decryption code;	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 13 lines 31-32.	The signal or signals may transmit a code or codes necessary for the decryption of the transmission.	Page 292 lines 7-11.	Receiving said message causes controller, 20, to load the enable-CC13 instructions and the enable-WSW instructions of the information segment of said message at particular RAM of

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			<p>Page 54 lines 2-6.</p> <p>Page 294 lines 28-35.</p> <p>Page 295 line 27 to page 296 line 2.</p>	<p>controller, 20, and execute said instructions as the machine language instructions of one job.</p> <p>An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art.</p> <p>Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions.</p> <p>Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,....</p> <p>... thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said-cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program....</p>
(4) a comparison datum that designates a communication schedule; and embedding the selected second one in said television signal.	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.



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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
7. The method of claim 3, wherein said first instruct signal comprises processor code, said method further comprising the steps of: selecting a	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said

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second instruct signal, said second instruct signal being one from the group consisting of:				Page 59 lines 29-33	<p>distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p>
(1) a switch control signal;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...		Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
				Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded</b> in television or radio or other programming transmissions ...</p>
				Page 28 lines 26-27.	<p>... monitor information that identifies what programming is available, ...</p>

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(2) a timing control signal;	Column 11 lines 38-39.		Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
		By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
(3) a locating control signal;	Column 14 lines 54-55.	If signal processor, 112, has been preprogrammed with the signal or signals ...	Page 298 line 33 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.
	Column 14 lines 54-61.	If signal processor, 112, has been preprogrammed with the signal or signals	Page 298 line 33 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit

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		or if it has been informed of the predetermined fashion for identifying and preprocessing the the needed signal or signals in the incoming transmission from facility, 113,	Page 289 line 22 to page 290 line 10.	locations is decryption cipher key Ba.  In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ... Receiving any given instance of please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to select particular WSW-on- CC13-at-particular-8:30 information in said received information, record said selected information at particular memory, and execute particular receive-authorizing-info-at- appointed-time instructions. ...
		for example, where to look for the signals	Page 290 lines 11-12.	In a predetermined fashion, executing said instructions causes controller, 20,....
			Page 290 lines 26-30.	... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200,....
			OR Page 298 lines 17-18.	Executing said 1st-stage-enable-WSW- program instructions causes controller, 20,....
			Page 298 line 34 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. ...
		and when	Page 290 lines 11-17.	In a predetermined fashion, executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM

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			<p>message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time....</p> <p>Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20,....</p> <p>....transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6,....</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. ...</p> <p>Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence</p>	
			<p>OR</p> <p>Page 297 lines 20-21.</p> <p>Page 290 lines 11-12, lines 21-26.</p> <p>Page 291 lines 21-28.</p>	
	and how,			
		signal processor, 112, can transfer the signal to decryptor/interruptor, 115.	Page 295 line 30 to page 296 line 1.	

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			<p>299 lines 13-18.</p> <p>Page 299 lines 13-25.</p>	<p>decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion....</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. ...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. ...</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, ...</p>
	<p>Column 14 lines 46-54.</p>	<p>The signal or signals necessary for the decryption of the channel that box, 114, passes to decryptor/interruptor, 115,</p> <p>in this case, is not located in the channel transmission.</p> <p>They may be preprogrammed into the signal processor (for example,</p>	<p>Page 298 line 34 to page 299 line 1.</p> <p>Page 299 lines 13-17.</p>	<p>decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion....</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. ...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. ...</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, ...</p>

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		<p>in programmable random access memory controller, 20, in Fig. 1)</p> <p>or they may be transmitted in a channel other than the channel being transferred from box, 114.</p>	<p>Page 298 line 33 to page 299 line 1.</p> <p>Page 293 line 20.</p> <p>Page 291 lines 10-20.</p>	<p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...</p> <p>...such as, for example, the RAM of controller, 20; ...</p> <p>...said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and ... enable-WSW instructions that include particular enable-WSW-programming information, ... <b>on the frequency of said master control channel.</b> (Hereinafter said message is called the "local-cable-enabling-message (#7).") ...</p> <p>... said "Wall Street Week" program when transmission of said program on cable channel 13 commences. ...</p> <p>...particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system ...</p> <p>Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions.</p> <p>Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ...</p>
(4) an instruct-to-contact signal that designates a remote receiver station;	Column 8 lines 58-62.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2. An example of such a control signal is an	Page 290 lines 26-31.	<p>... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13)</p>

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		instruction for the apparatus to contact a remote telephone unit.	<p>Page 291 lines 21-24.</p> <p>Page 59 lines 29-31.</p> <p>Page 402 lines 22-26.</p> <p>Page 403 lines 7-12.</p> <p>Page 405 lines 20-29.</p>	<p>from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.</p> <p>... causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.</p> <p>Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.</p> <p>Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.</p> <p>Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...</p>
(5) an instruct-to-	Column 11 lines 38-39.	By comparing identification signals on	Page 327 line 35 to	Computer, 73, monitors incoming



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transfer signal that designates a unit of broadcast or cablecast programming;			the incoming programming ...	page 328 line 13.	<p>programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
				Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p>
				Page 28 lines 26-27.	<p>... <b>monitor information that identifies what programming</b> is available, ...</p>
				Page 49 lines 26-27.	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
(6) an instruct-to-delay signal that designates a unit of broadcast or cablecast programming;	Column 11 lines 38-39.		By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor</b></p>



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		<p>instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form and instruct control means, 226, to activate printer, 221.</p>	<p>consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of</p>	
			<p>476 line 34 to page 477 line 8.</p>	
			<p>Page 477 lines 8-17.</p>	

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	Column 20 lines 45-46.	... and all necessary equipment was enabled.	Page 474 lines 3-7.  Page 473 line 29 to page 474 line 1.	said decoder, 290, to receive said transmission ...  ... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...  Receiving said message causes the controller, 39, of decoder, 203, to load and execute said <b>generate-recipe-</b> ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
(9) an instruct-to-record signal that designates a broadcast or cablecast program;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.  Page 84 lines 26-28.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.  By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original

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	Column 19 lines 20-27.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 28 lines 26-27.  Page 49 lines 26-27.  Page 436 line 9 to page 437 line 6.	transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...  ... <b>monitor information that identifies what programming</b> is available, ...  Meter-monitor segments contain meter information and/or monitor information.  Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.  Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.  Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, ...
		Then, in a predetermined fashion, microcomputer, 205, may	Page 439 lines 9-15.	...to cause selected apparatus of said

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				Page 439 lines 9-15	station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...
			instruct tuner, 214, to switch box, 201, to channel X	Page 295 lines 6-8.	...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
			and may instruct and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...
(10) an instruction signal that controls a multimedia presentation;		Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ...



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	Reference	Language	Reference	Language
				<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>
			<p>Page 84 lines 26-28.</p>	
			<p>Page 28 lines 26-27.</p>	
			<p>Page 49 lines 26-27.</p>	
	<p>Column 19 lines 20-23.</p>	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 267 lines 20-28 from example #5.</p>	



Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
			Page 435 lines 16-25.	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to</p>
			Page 436 line 9 to page 437 line 3.	

Claim Language	Support to parent application filed November 3, 1981.	Reference	Language	Support to instant specification.	Reference	Language
	<p>Column 19 lines 20-23.</p>	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 439 lines 14-15.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 435 lines 16-25.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>the controller, 20.</p> <p>...to receive the transmission of cable channel 13;...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select</p>		

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
				<p>instructions causes microcomputer, 205, to...</p> <p>Said instructions contain one instance, and ...</p> <p>program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i></p> <p>Automatically, microcomputer, 205, compares said one instance to said</p> <p>program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW</p> <p>-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13;...</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p>
		... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...	Page 439 lines 14-15.	
	Column 19 lines 27-28.		Page 445 line 24 to page 446 line 1.	
(13) an instruct-to-tune signal that designates a receiver or	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
a frequency;					<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
				Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p>
				Page 28 lines 26-27.	<p>... <b>monitor information that identifies what programming</b> is available, ...</p>
				Page 49 lines 26-27.	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.		Page 267 lines 20-28 from example #5.	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
			Page 435 lines 16-25.	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to</p>
			Page 436 line 9 to page 437 line 3.	

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
	Column 19 lines 28-29.	...and tuner, <b>215</b> , to tune appropriately to "Wall Street Week."	Page 439 lines 14-15.  Page 445 line 35 to page 446 line 1.  Page 446 lines 17-21.	the controller, 20.  ... to receive the transmission of cable channel 13;...  ... and to tune monitor, 202M, in a predetermined fashion.  In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....
(14) an instruct-to-coordinate signal that designates two apparatus;	Column 4 lines 5-6.  Column 19 lines 20-29.	These techniques employ signals embedded in programs.  Analyzing these identifier signals in a predetermined fashion, microcomputer, <b>205</b> , determines that "Wall Street Week" is being televised on channel X.	Page 13 lines 25-26.  Page 436 line 9 to page 437 line 6.	The present invention employs signals embedded in programming.  Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...  Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares

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		Then, in a predetermined fashion, microcomputer, <b>205</b> , may		said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance. Determining a match causes microcomputer, <b>205</b> , automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, <b>20</b> . Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, <b>20</b> , in a predetermined fashion, to prepare particular apparatus ... ...to cause selected apparatus of said station--cable converter box, <b>201</b> , ... to receive the transmission of cable channel <b>13</b> ; ... Then, automatically, controller, <b>20</b> , causes a selected tuner, <b>214</b> , to tune to the frequency of cable channel <b>13</b> , thereby causing its associated converter box, <b>201</b> , to convert its ... ...instructions causes controller, <b>20</b> , ...; to switch power on to video recorder/player, <b>217</b> , ... ...controller, <b>20</b> , ... causes recorder/player, <b>217</b> , to record said information of the "Wall Street Week" program. ...instructions causes controller, <b>20</b> , to switch power on to monitor, <b>202M</b> , ... Automatically, controller, <b>20</b> , inputs a particular instruction to decoder, <b>145</b> , via said communications link, that causes decoder, <b>145</b> , to switch power on to monitor, <b>202M</b> , ... ...and to tune monitor, <b>202M</b> , in a predetermined fashion.
		instruct tuner, <b>214</b> , to switch box, <b>201</b> , to channel <b>X</b>	Page 439 lines 9-15.	
		and may instruct control system, <b>220</b> , to turn video recorder, <b>217</b> , on and record "Wall Street Week,"	Page 295 lines 6-8.	
		and also microcomputer, <b>205</b> , may instruct switch, <b>216</b> , to turn TV set, <b>202</b> , on	Page 445 lines 24-27.	
		and tuner, <b>215</b> , to tune appropriately to "Wall Street Week."	Page 446 lines 18-23.	
			Page 445 line 24 to page 446 line 1.	
			Page 445 line 35 to page 446 line 1.	

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	Reference	Language	Reference	Language
	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs overlay to TV set, 202, ...	<p>Page 446 lines 17-21.</p> <p>Page 25 line 33 to page 26 line 2..</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-8.</p>	<p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>



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		Reference	Language	Reference	Language
		Column 19 line 30.	<b>Co-ordinating Multimedia Presentations in Time</b>	See generally page 447 line 25 to page 457 line 10.	<b>Controlling Computer-based Combined Media Operations</b>
(15) an instruct-to-compare signal that designates a news transmission or a computer input;	Column 18 lines 48-55.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 420 line 21 to page 421 line 7.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200. Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ... In due course, said remote news-service-A station ...	
(16) an identifier signal that causes a computer to instruct a plurality of tuners each to tune to a broadcast or cablecast transmission;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of	

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
				Page 84 lines 26-28.	Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...  ... <b>monitor information that identifies what programming</b> is available, ...  Meter-monitor segments contain meter information and/or monitor information.  Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...  Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.  Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.
				Page 28 lines 26-27.	
				Page 49 lines 26-27.	
		Column 19 lines 20-25.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Page 436 line 9 to page 437 line 6.	

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	Reference	Language	Reference	Language
			<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p>	<p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p>
	<p>Column 19 lines 27-29.</p>	<p>...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."</p>	<p>Page 445 line 24 to page 446 line 1.</p>	<p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
(17) an instruct-to-coordinate signal that designates two units of multimedia information	<p>Column 19 lines 60 to page 20 line 2.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p>	<p>Page 25 line 34 to page 26 line 2.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by</p>

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and one of: (1) an output time and (2) an output place;		<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 37 line 26 to page 38 line 8.</p>	<p>decoder, 203, transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p>
			<p>Page 26 lines 4-11.</p>	<p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p>
			<p>Page 451 line 3.</p>	<p>And the Fig. 1C combining is displayed.</p>
	<p>Column 19 lines 31-34.</p>	<p>FIG 6C can also illustrate how programing delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.</p>	<p>Page 18 lines 24-27.</p>	<p>Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.</p>
			<p>page 450 line 27 to page 451 line 11.</p>	<p>(To accomplish all this has required only that the subscriber of microcomputer, 205,</p>

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		Reference	Language	Reference	Language
					<p>[and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>
(18) an instruct-to-generate signal that designates an output datum;		Column 19 line 60 to column 20 line 1.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well</p>

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	Reference	Language	Reference	Language	
					known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
		This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.	Page 26 lines 4-11.		Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...
(19) an instruct-to-transmit signal that designates a computer output;	Column 19 line 60 to column 20 line 1.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.		At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the

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	Reference	Language	Reference	Language
		<p>This signal instructs microcomputer, <b>205</b>, to transmit the first overlay to TV set, <b>202</b>, for as long as it receives the same instruction signal from processor, <b>204</b>.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	<p>Page 26 lines 4-11.</p>	<p>art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, <b>205</b>, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, <b>202M</b>. TV monitor, <b>202M</b>, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, <b>205</b>, commences ...</p>
(20) an instruct-to-overlay signal that designates a television image;	Column 19 lines 60 to page 20 line 2.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, <b>203</b>, and transferred via processor, <b>204</b>, to microcomputer, <b>205</b>. This signal instructs microcomputer, <b>205</b>, to transmit the first overlay to TV set, <b>202</b>, for as long as it receives the same instruction signal from processor, <b>204</b>. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, <b>203</b>; transferred to microcomputer, <b>205</b>; ...</p> <p>In each decoder, the controller, <b>39</b>, <b>44</b>, or <b>47</b>, receives detected digital information from the relevant detector or detectors, <b>34</b>, <b>37</b>, <b>38</b>, <b>43</b>, and <b>46</b>. Upon receiving any given instance of signal information, controller, <b>39</b>, <b>44</b>, or <b>47</b>, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus</p>

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		Reference	Language	Reference	Language
				Page 26 lines 4-11.	...
				Page 451 line 3.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
(21) an instruct signal that designates a function to perform if a predetermined condition exists;	Column 20 lines 27-36.	Five minutes later,  a signal is identified in the incoming programing on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.  This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion,  instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause an instance of ...  (An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said	
				Page 476 line 34 to page 477 line 8.	



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				<p>"Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p>
(22) an instruct-to-enable-and-deliver signal that designates information that implements a television program;	Column 19 lines 63-66.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	Page 26 lines 1-8.	<p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the</p>
			Page 477 lines 8-17.	
			Page 37 line 26 to page 38 line 8.	

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	Reference	Language	Reference	Language
				art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
(23) an instruct-to-transmit signal that designates a computer peripheral device;	Column 19 lines 63-66.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	Page 26 lines 1-8.  Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
(24) a code signal that designates a datum to remove or embed; and	Column 12 lines 35-41.	The cable head end facility also contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from programming as	Page 354 lines 18-24.	Fig. 6 shows signal strippers, 81, 85, and 89, of which models exist well known in the art, that computer, 73, can cause to remove SPAM information from programming as required, and signal generators, 82, 86, and 90, also

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(25) a signal addressed to a receiver station apparatus; and			required, and signal generators, 82, 86, and 90, also well known in the art, that controller/ computer, 73, can instruct to add signals to programming as required.		well known in the art, that computer, 73, can cause to embed SPAM information as required.
	Column 18 lines 1-7.	Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205. Microcomputer, 205, uses such received signals, in a predetermined fashion, to govern the operation of furnace, 206, air conditioning system, 207, and window opening and closing means, 208.		Page 400 lines 3-4.  Page 35 lines 11-15.	Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to ...  ... the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which...
				Page 35 lines 24-27.	... said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.
				Page 35 lines 28-31.	... separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39.
				Page 400 lines 6-18. See Fig. 3A regarding the composition of controller 39.	Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to ... to input the information of the information segment of said message to the CPU of microcomputer, 205; ... and to cause said CPU to execute the information so inputted as a machine language job.
				Page 37 line 28 to page 38 line 8.	Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is

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				<p>preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>So executing said information causes microcomputer, 205, to reducing the power usage of said air conditioning system, 207, causes any open windows at said station to be closed.</p> <p>In this fashion, SPAM messages can control and regulate the operation of individual subscriber station controlled apparatus (the thermostat control of furnace, 206, for example, could be similarly controlled) ...</p> <p>The present invention employs signals embedded in programming.</p>
embedding said selected second instruct signal in said television signal.	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	<p>Page 400 lines 19-22.</p> <p>Page 401 lines 14-17.</p> <p>Page 13 lines 25-26.</p>	
8. A method of generating and encoding signals to control	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-</p>

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a presentation comprising the steps of:	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	monitor ...
	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 14 line 35 to page 15 line 2.  Page 18 lines 24-27.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.
			page 450 line 27 to page 451 line 11.	(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C

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receiving and storing a program that contains video information;	Column 19 lines 25-27.  Column 19 line 53-56.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...  Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 445 lines 24-27.  Page 446 lines 18-23.  Page 25 lines 26-33.	is merely the first.  ... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...  ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.  During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
receiving an instruction,	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.  Page 25 lines 34-35.  Page 90 lines 4-7.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, ...  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.

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said instruction having effect to instruct a user station processor to	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2.  Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.  ... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
generate or	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
output information to	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.

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supplement or	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
complete said program;	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
			Page 26 lines 1-2.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and



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					<p>process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p>
				Page 26 lines 4-11.	
				Page 451 line 3.	
encoding said instruction, said step of encoding translating said instruction to a first control signal	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.		Page 22 lines 1-6.	<p>... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... processes signal information embedded in an inputted radio frequency.</p> <p>... processes signal information embedded in a frequency other than a television or radio frequency.</p>
	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded		Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a

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with said effect; and	Column 19 lines 43-44.	together on a single line of video or sequentially in audio. ... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	single line of video or sequentially in audio. ... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his	Page 25 line 34 to page 26 line 2.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203, transferred to microcomputer, 205; ...
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is

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			own stocks' performance overlay the studio generated graphic.		preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
				Page 26 lines 4-11.	
				Page 451 line 3.	
storing said first control signal in conjunction with said program.		Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.	... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...
		Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 446 lines 18-23.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
				Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
9. The method of claim 8, wherein	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio	Page 25 line 33 to page 26 line 2..	Then the host says, "And here is what your portfolio did." At this point, an instruction	

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supplemental program material is stored at the same location as said processor and said first control signal directs said processor to generate a video overlay based on said supplemental material that is coordinated with said video information in said program, said method further comprising the step of:		originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	<p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-8.</p> <p>Page 23 line 35 to page 24 line 16.</p>	<p>signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the</p>
	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to		

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		generate several graphic video overlays, ...	Page 451 lines 7-11.	input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
		and to transmit these overlays to TV set, 202,	Page 26 lines 4-8.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		upon command.	Page 44 lines 14-17.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
			Page 26 lines 20-28.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.
				(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...
			Page 451 line 3.	And the Fig. 1C combining is displayed.
	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

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	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
storing a second control signal in conjunction with said program and said first control signal from said step of encoding,	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a

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said second control signal having effect at a user station to query a remote station for said supplemental programming or to receive said supplemental program material in a broadcast or cablecast transmission.	Column 19 lines 17-23.	<p>together on a single line of video or sequentially in audio.</p> <p>... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>single line of video or sequentially in audio.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p>

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	Column 19 lines 23-27.	... microcomputer, <b>205</b> , may instruct tuner, <b>214</b> , to switch box, <b>201</b> , to channel X and may instruct control system, <b>220</b> , to turn video recorder, <b>217</b> , on and record "Wall Street Week," ...	<p>Page 439 lines 14-15.</p> <p>Page 437 lines 1-6.</p> <p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>	<p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>



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<p>Column 19 lines 45-49.</p> <p>Column 19 lines 60-63.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...</p> <p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred, and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p>	<p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 24 lines 5-6.</p> <p>Page 451 lines 7-9.</p> <p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p>	

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			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
10. The method of claim 8, wherein said first control signal directs said processor to generate a video overlay that is to be coordinated with said video information in said program, said method further including the step of:	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and
			Page 26 lines 4-11.	

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				transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
transmitting said video overlay generated by said processor to a video display.	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 451 line 3.  Page 26 lines 4-10.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
11. The method of claim 8, further comprising the steps of: receiving a second instruction, said second instruction being one of the group consisting of:	Column 10 lines 61-64.  Column 11 lines 3-5.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.  Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 324 lines 23-33.  Page 325 line 34 to page 326 line 7.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...  At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted

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				<p>into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addressed to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p>
(1) an instruction which is effective at a user station to generate some output to be associated with	Column 19 lines 63 to column 20 line 2.	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 59 lines 29-33</p> <p>Page 26 lines 1-2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said</p>

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a product, service,				Page 26 lines 4-11.	signal information should be transferred; and to transfer said signals to said apparatus.  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
		Column 20 line 21.	... a printed copy ...	Page 451 line 3.	... your own printed copy ...
		Column 19 lines 28-29.	...and tuner, 215, to tune appropriately to "Wall Street Week."	Page 471 line 8.  Page 445 line 35 to page 446 line 1.  Page 446 lines 17-21.	... and to tune monitor, 202M, in a predetermined fashion.  In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....
or information presentation;		Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3.  Page 26 lines 8-11.	And the Fig. 1C combining is displayed.  TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
(2) an instruction which is effective at a user station to display a combined or		Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from	Page 26 lines 1-2.  Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the

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			processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.		relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
				Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
				Page 451 line 3.	And the Fig. 1C combining is displayed.
			Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
sequential presentation of a mass medium program and user specific data;		Column 19 lines 59-60.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 8-11.	TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...

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(3) an instruction which is effective at a user station to process	Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...	
a user reaction to said program;	Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...	Page 471 lines 6-25.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station. Receiving said instruction and information	

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(4) an instruction which is effective at a user station to	Column 13 lines 17-20.	The signals that enable the decrypter/interrupter, 101, to decrypt and/or transfer programming uninterrupted may be embedded in the programming or may be elsewhere.	Page 291 lines 9-24	<p>causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.</p> <p>In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, ... to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, ... <i>on the frequency of said master control channel</i>. (Hereinafter said message is called the "local-cable-enabling-message (#7).")</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.</p> <p>particular master cable control channel (that <i>may or may not be cable channel 13</i>) from the multi-channel cable system</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p>
			Page 289 lines 22-27	
			Page 290 lines 28-29	
			Page 298 lines 17-21.	



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communicate to a remote station a query for information to be associated with said program or to enable display of said program;	Column 15 lines 20-25.	In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.	<p>Page 299 lines 19-22.</p> <p>Page 311 line 33 to page 312 line 8.</p> <p>Page 293 lines 32-35.</p> <p>Page 301 lines 6-9.</p> <p>Page 308 line 35 to page 309 line 3.</p>	<p>Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, ...</p> <p>And for example, determining that a local station is not preprogrammed properly and/or that decryption, ... apparatus are not functioning correctly may cause apparatus of said station ... interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. And for example, the transmitted programming ...</p> <p>At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion....</p> <p>... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly ...</p> <p>At each station where a ... a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly ...</p>
(5) an instruction which is effective at a user station to	Column 19 lines 63-66.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.

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receive information to form the basis of the supplementing or completion of said program;				Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.		Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed.  TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
(6) an instruction which is effective at a user station to process a digital television signal; and	Column 19 lines 63-66.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,		Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
				Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of

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(7) an instruction which is effective at a user station to serve as a basis		Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p>
					<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is</p>

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for enabling an output device to display at least some of said program or	Column 19 lines 23-29.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 439 lines 14-15.  Page 437 lines 1-6.  Page 295 lines 6-8.  Page 439 lines 9-15.	<p>preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p>

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for enabling said processor to process some			Page 445 lines 24-27.	... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...
			Page 446 lines 18-23.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
			Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
			Page 445 line 35 to page 446 line 1.	... and to tune monitor, 202M, in a predetermined fashion.
			Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 25 line 33 to page 26 line 2..	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of

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processor code;	Column 19 lines 48-53.			forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
		These signals instruct microcomputer, 205, to	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
		generate several graphic video overlays, ...	Page 451 lines 7-11.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		and to transmit these overlays to TV set, 202,	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the

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		<b>upon command.</b>	<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p>	<p>received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...</p>
encoding said second instruction, said second step of encoding translating said second instruction to a second control signal, said second control signal for directing said processor to perform the specified effect indicated by said second instruction; and	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7.</p> <p>Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>

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storing said second control signal in conjunction with said program.	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to



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					the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
12. The method of claim 8, further including one step from the group consisting of: embedding said first control signal in the non-visible portion of a television signal;	Column 4 lines 5-9.  Column 11 lines 38-39.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. ...  By comparing identification signals on the incoming programming ...	Page 13 lines 25-28.  Page 327 line 35 to page 328 line 13.  Page 84 lines 26-28.	<p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other programming transmissions ...</p>	

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		Column 4 lines 18-22.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.	Page 28 lines 26-27.  Page 49 lines 26-27.  Page 14 lines 6-11.	... monitor information that identifies what programming is available, ...  Meter-monitor segments contain meter information and/or monitor information.  In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.
embedding a code in said program that		Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
enables a computer or controller		Column 2 lines 65-66.  Column 19 lines 17-23.	Examples of signal units are a unique code identifying a programming unit, ...  ... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 14 lines 27-29.  Page 435 lines 16-18.  Page 267 lines 20-28 from example #5.	Examples of signal units are a unique code identifying a programming unit, ...  In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...  All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
				Page 436 line 9 to page 437 line 3.	Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The

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to control a presentation of said program in accordance with said first control signal;	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 439 lines 14-15.</p> <p>Page 436 line 9 to page 437 line 6.</p>	<p>information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to</i></p>

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		<p>Then, in a predetermined fashion, microcomputer, 205, may</p> <p>instruct tuner, 214, to switch box, 201, to channel X</p> <p>and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"</p> <p>and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on</p>	<p>view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its</p> <p>...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p>	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 445 line 24 to page 446 line 1.</p>	

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		and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 35 to page 446 line 1. Page 446 lines 17-21.	... and to tune monitor, 202M, in a predetermined fashion.  In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
communicating a program unit identification code and storing said program unit identification code at a storage location associated with said program; and	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
	Column 19 lines 43-44.	... instruction signals embedded in the	Page 21 lines 23-24.	... instruction signals embedded in the "Wall

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		"Wall Street Week" programming transmission. Examples of signal units are a unique code identifying a programming unit, ...	Page 14 lines 27-29.	Street Week" programming transmission. Examples of signal units are a unique code identifying a programming unit, ...
communicating to and storing at a storage location associated with said program some information	Column 2 lines 65-66.  Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.  ... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 43-44.  Column 2 lines 65-66.	... instruction signals embedded in the "Wall Street Week" programming transmission. Examples of signal units are a unique code identifying a programming unit, ...	Page 21 lines 23-24.  Page 14 lines 27-29.	Examples of signal units are a unique code identifying a programming unit, ...

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to evidence an availability, use, or usage of said program at a user station.		Column 18 lines 29-41.	FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service.	Page 411 lines 10-11.	In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...
			TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 88 lines 19-22.	... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.
				Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above escribed fashion.
				Page 414 lines 13-27.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
				Page 15 lines 16-22.	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
			The processors, 204 and 210, transfer this information to signal processor, 200,	Page 36 lines 32-33.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor,

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			Page 38 lines 11-14.	ROM, and RAM capacities.  Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.  ... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.  Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.
			Page 411 lines 10-15.	
			Page 418 line 23 to page 419 line 15.	
			Page 411 line 28 to page 412 line 2.	In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in ...
		for recording and subsequent transmission to a remote data collection site.	Page 173 line 30 to page 174 line 23 from	The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control



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		<p>Simultaneously, processor, <b>200</b>, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programing availability to record and transmit to a remote site.</p>	<p>example #3.</p> <p>Page 419 lines 4-15.</p> <p>Page 28 lines 25-35.</p> <p>Page 397 lines 17-20.</p>	<p>of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1<sup>st</sup> monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p> <p>Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...</p>

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13. A method of processing signals in a system of stations including at least one transmitter station and	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.			
at least one receiver station to	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.			
control a mass medium programming presentation comprising the steps of:	Column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ...			
receiving a signal	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59.			
		The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.			
		Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.			
		Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.			
		TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...			
		The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions			

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containing	Column 19 lines 43-44.	Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 21 lines 23-24.	are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
	Column 19 lines 46-53.	... instruction signals embedded in the "Wall Street Week" programming transmission.  When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.	... instruction signals embedded in the "Wall Street Week" programming transmission.  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
			Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes

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unit of mass medium programming and		Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
communicating said signal to a storage device;		Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
receiving one or more instruct signals which are effective at		Column 10 lines 30-39.	The facility receives programing from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programing input means, 62, can receive programing transmissions.	Page 324 lines 23-31.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
			The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.		

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a broadcast or cablecast transmitter station to	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may

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communicate said signal to a transmitter and		Column 11 lines 57-64.	programming or a cable system cablecasting many channels.	Page 329 line 2-20.	transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
			Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...		Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
at a receiver station to store said signal or present information contained in said signal at an output device;		Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...
				Page 248 lines 22-26 from example #5.	Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television

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			<p>programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "<b>program unit identification code</b>" and subject matter information of said first command and the <b>channel mark of cable channel 13</b> ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said</p>	<p>programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "<b>program unit identification code</b>" and subject matter information of said first command and the <b>channel mark of cable channel 13</b> ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said</p>
			<p>Page 250 lines 13-16 from example #5.</p> <p>Page 252 lines 15-35 from example #5.</p> <p>Page 267 lines 20-28 from example #5.</p>	

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communicating said one or more instruct signals to said storage device; and	Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...		microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
	Column 11 lines 38-39.	By comparing identification signals on the incoming programing ...	Page 327 line 35 to page 328 line 13.	The present invention employs signals embedded in programming.  Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...



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			Page 28 lines 26-27. Page 49 lines 26-27. Page 329 line 15-16.	... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information. ... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
storing said one or more instruct signals at said storage device in association with said unit of mass medium programming.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.		
14. The method of claim 13, wherein said unit of mass medium programming comprises video or audio, said method further comprising one from the group consisting of:	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
embedding said one or more instruct signals in a television or radio signal;	Column 4 lines 5-9.  Column 16 lines 25-32.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. ...  One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods	Page 13 lines 25-28.  Page 319 lines 23-30.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.  One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques

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		provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.		for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
embedding a code in said unit of mass medium programming that	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...

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<p>Column 2 lines 63-66.</p> <p>Column 19 lines 14-15.</p>	<p>(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or information <b>message unit</b>. Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.</p>	<p>Page 49 lines 26-27.</p> <p>Page 14 lines 27-29.</p> <p>Page 435 lines 16-18.</p> <p>Page 248 lines 22-26 from example #5.</p> <p>Page 250 lines 13-16 from example #5.</p> <p>Page 252 lines 15-35 from example #5.</p>	<p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or information <b>message unit</b>. Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...</p> <p>Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter-monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that</p>	

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enables a processor or computer at a user station to receive or output information to	Column 19 lines 20-29.	<p>includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>
	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 267 lines 20-28 from example #5.</p> <p>Page 436 line 9 to page 437 line 6.</p>
		<p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically microcomputer 205 commences</p>

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		Then, in a predetermined fashion, microcomputer, <b>205</b> , may		said one instance to said program-unit-of-interest information and determines a match with said second instance. Determining a match causes microcomputer, <b>205</b> , automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, <b>20</b> . Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, <b>20</b> , in a predetermined fashion, to prepare particular apparatus ... ...to cause selected apparatus of said station--cable converter box, <b>201</b> , ... to receive the transmission of cable channel <b>13</b> ; ... Then, automatically, controller, <b>20</b> , causes a selected tuner, <b>214</b> , to tune to the frequency of cable channel <b>13</b> , thereby causing its associated converter box, <b>201</b> , to convert its ... ...instructions causes controller, <b>20</b> , ...; to switch power on to video recorder/player, <b>217</b> , ... ...controller, <b>20</b> , ... causes recorder/player, <b>217</b> , to record said information of the "Wall Street Week" program. ...instructions causes controller, <b>20</b> , to switch power on to monitor, <b>202M</b> , ... Automatically, controller, <b>20</b> , inputs a particular instruction to decoder, <b>145</b> , via said communications link, that causes decoder, <b>145</b> , to switch power on to monitor, <b>202M</b> , ... ...and to tune monitor, <b>202M</b> , in a predetermined fashion.
		instruct tuner, <b>214</b> , to switch box, <b>201</b> , to channel <b>X</b>	Page 439 lines 9-15.	
		and may instruct control system, <b>220</b> , to turn video recorder, <b>217</b> , on and record "Wall Street Week,"	Page 295 lines 6-8.	
		and also microcomputer, <b>205</b> , may instruct switch, <b>216</b> , to turn TV set, <b>202</b> , on	Page 445 lines 24-27.	
		and tuner, <b>215</b> , to tune appropriately to "Wall Street Week."	Page 446 lines 18-23.	
			Page 445 line 24 to page 446 line 1.	
			Page 445 line 35 to page 446 line 1.	

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supplement or	Column 17 lines 39-46.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are <b>addressed</b> , and transfer such signals to such equipment as <b>directed</b> . This permits many valuable techniques for facilitating the operation of such external equipment.	<p>Page 446 lines 17-21.</p> <p>Page 15 lines 16-23.</p> <p>Page 34 lines 24-26.</p> <p>Page 44 lines 14-15.</p> <p>Page 95 lines 18-21.</p> <p>Page 390 lines 26-29.</p> <p>Page 25 lines 33-34.</p>	<p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which said signals are <b>addressed</b>, and outputs said signals to said apparatus ...</p> <p>A command is an instance of signal information that is <b>addressed</b> to particular subscriber station apparatus and that ...</p> <p>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is <b>addressed</b> to URS microcomputers, 205, and to transfer said message to microcomputer, 205.</p> <p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.</p> <p>Then the host says, "And here is what your portfolio did."</p> <p>Said signal is identified by decoder, 203;</p>
complete	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."		

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	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	<p>Page 26 lines 1-2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>Then the host says, "And here is what your portfolio did."</p>	
			Page 26 lines 4-11.		
			Page 451 line 3.		

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unit of mass medium programming in accordance with said one or more instruct signals;	Column 19 lines 59-60.  Column 19 line 53-56.	Then the host says, "And here is what your portfolio did."  Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 33-34.  Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.	
communicating a program unit identification code to said storage device	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.	
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,	



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				<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in television or radio or other programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>(The term "signal unit" hereinafter means <b>one complete signal instruction or information message unit</b>. Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
			Page 14 lines 27-29.	
			Page 329 line 15-16.	
and storing said program unit identification code at a storage location in said storage device associated with said unit of mass medium	Column 2 lines 63-66.	(The term "signal unit" hereinafter means <b>one complete signal instruction or information message unit</b> . Examples of signal units are a unique code identifying a programming unit, or a ...		
	Column 11 lines 64-65.	... instructs the recorder/player, <b>76 or 78</b> , to turn on and record the programming.		

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		Reference	Language	Reference	Language
programming;		Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
communicating to and storing at said storage device some information to be processed at a user station		Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
		Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,

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to evidence				<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in television or radio or other programming transmissions</b> ...</p>
			Page 28 lines 26-27.	<p>... <b>monitor information that identifies what programming</b> is available, ...</p>
			Page 49 lines 26-27.	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 315 lines 20-24.	<p>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.</p>
			Page 44 lines 26-32.	<p>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to</p>

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an availability, use, or usage of video, audio, or text associated with said data file or unit of mass medium programming;	Column 18 lines 29-41.	FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service.  TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 49 line 26 to page 50 line 20.	assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.  Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.  ... monitor information that identifies what programming is available, ...
			Page 28 lines 26-27.	In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...
			Page 88 lines 19-22.	... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.
			Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above escribed fashion.
			Page 414 lines 13-27.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said

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			<p>radio transmission ...</p> <p>Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.</p> <p>Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p>	
			<p>Page 15 lines 16-22.</p>	
	<p>The processors, 204 and 210, transfer this information to signal processor, 200,</p>		<p>Page 36 lines 32-33.</p>	
			<p>Page 38 lines 11-14.</p>	
			<p>Page 411 lines 10-15.</p>	
			<p>Page 418 line 23 to page 419 line 15.</p>	

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		for recording and subsequent transmission to a remote data collection site.	Page 411 line 28 to page 412 line 2.	<p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in ...</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synchronizing command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1<sup>st</sup> monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and</p>	<p>Page 173 line 30 to page 174 line 23 from example #3.</p> <p>Page 419 lines 4-15.</p> <p>Page 28 lines 25-35.</p>	
	Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming					

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	availability to record and transmit to a remote site.				how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.  Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...
communicating to and storing at said storage device	Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...		Page 397 lines 17-20.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.  Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...  ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;  ...  Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...  ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;  ...  ... instructions causes controller, 20, ...; to
one or more second instruct signals which are effective at a user station to generate some output to supplement or complete said unit of mass medium programming;	Column 19 lines 59-60.  Column 19 lines 60 to page 20 line 2.	Then the host says, "And here is what your portfolio did."  At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a		Page 439 lines 9-15.  Page 295 lines 6-8.  Page 439 lines 9-15.  Page 445 lines 24-27.	

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		<p>microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>switch power on to video recorder/player, 217,...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>Then the host says, "And here is what your portfolio did."</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is</p>
<p>Page 446 lines 18-23.</p> <p>Page 25 lines 33-34.</p> <p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>			
<p>Page 26 lines 4-11.</p>			



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			Page 451 line 3.	the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And the Fig. 1C combining is displayed.
communicating to and storing at said storage device	Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... ... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,...
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	
			Page 445 lines 24-27.	
			Page 446 lines 18-23.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
one or more second instruct signals which	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio	Page 25 line 34 to page 26 line 2.	At this point, an instruction signal is generated at said program originating studio, embedded

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are effective to generate some output to be associated with said a, service, or information presentation;	<p>originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p>
communicating to and storing at said storage device one or more second instruct signals which are effective at a receiver station	<p>Column 11 lines 57-65.</p> <p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion to record the</p>	<p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p> <p>Page 329 line 2-22.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program</p>

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	<p data-bbox="201 968 354 1444">incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.</p> <p data-bbox="902 1444 959 1730">Column 10 line 64 to Column 11 line 1.</p>	<p data-bbox="201 968 354 1444">incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.</p> <p data-bbox="902 968 1114 1444">At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93.</p>	<p data-bbox="902 680 930 968">Page 325 lines 17-24.</p> <p data-bbox="1271 680 1328 968">Page 324 line 31 to page 325 line 2.</p>	<p data-bbox="201 153 873 680">unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78, to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p> <p data-bbox="902 153 1235 680">In line between each of the aforementioned receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75.</p> <p data-bbox="1271 153 1477 680">Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions over</p>	

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to display	Column 19 lines 20-29.	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p> <p>Then, in a predetermined fashion, microcomputer, 205, may</p> <p>instruct tuner, 214, to switch box, 201, to channel X</p>	<p>Page 436 line 9 to page 437 line 6.</p> <p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p>	<p>various channels to the cable system's field distribution system, 93, ...</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</p> <p>Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of</p>

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		and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"	Page 445 lines 24-27.  Page 446 lines 18-23.  Page 445 line 24 to page 446 line 1.	cable channel 13, thereby causing its associated converter box, 201, to convert its ... ...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ... ...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program. ...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ... ...and to tune monitor, 202M, in a predetermined fashion.
a combined	Column 19 lines 67 to column 20 line 2.	and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 35 to page 446 line 1.  Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...  And the Fig. 1C combining is displayed.
or sequential presentation of a mass medium program	Column 19 lines 59-60.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.  Then the host says, "And here is what your portfolio did."	Page 451 line 3.  Page 26 lines 8-11.  Page 25 lines 33-34.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  Then the host says, "And here is what your portfolio did."  TV monitor, 202M, then displays ... the

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and user specific data;	Column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 8-11.	microcomputer generated graphic of the subscriber's own portfolio performance ...
communicating to and storing at said storage device one or more second instruct signals which are effective to process	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
	Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information

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a user reaction to said unit of mass medium programming;	Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...	Page 471 lines 6-25.	<p>invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.</p> <p>Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.</p>
communicating to and storing at said storage device one or more second instruct signals which are effective to	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in	Page 329 line 2-22.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given</p>

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communicate to a remote station a query for information to be associated with said unit of mass medium programming	Column 10 line 64 to Column 11 line 1.	a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93.	SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
			Page 325 lines 17-24.	In line between each of the aforementioned receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75.
			Page 324 line 31 to page 325 line 2.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to



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or to enable display of said unit of mass medium programming;	Column 19 lines 20-29.	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p> <p>Then, in a predetermined fashion, microcomputer, 205, may</p>	<p>Page 436 line 9 to page 437 line 6.</p> <p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p>	<p>apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, ...</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a</p>

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		channel X  and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"  and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on  and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 lines 24-27.  Page 446 lines 18-23.  Page 445 line 24 to page 446 line 1.  Page 445 line 35 to page 446 line 1.  Page 446 lines 17-21.	selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ... ...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ... ...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program. ...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ... ...and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ... Then the host says, "And here is what your portfolio did."
communicating to and storing at said storage device one or more second instruct signals which are effective to control a user station to receive information to supplement or	Column 19 lines 59-60.  Column 11 lines 38-39.	Then the host says, "And here is what your portfolio did."  By comparing <b>identification signals on the incoming programming ...</b>	Page 25 lines 33-34.  Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62,

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complete said unit of mass medium programming;				and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... <b>upon command.</b>	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
			Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input

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communicating to and storing at said storage device				Page 44 lines 14-17.	buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
				Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes a subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
				Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...  ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;
		Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 439 lines 9-15.	

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one or more second instruct signals which are effective to process a digital television signal; and	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 295 lines 6-8.	...
	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 25 line 33 to page 26 line 2..	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...
			Page 37 line 26 to page 38 line 8.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
				... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....
				... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
				... instruction signals embedded in the "Wall Street Week" programming transmission.
				Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
				In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well

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					known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
				Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
communicating to and storing at said storage device	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.		Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder,

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a code	Column 2 lines 65-66.	Examples of signal units are a unique code identifying a programming unit, ...	Page 14 lines 27-29.	76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
or datum	Column 17 lines 39- 44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.	Page 15 lines 16-23.	Examples of signal units are a unique code identifying a programming unit, ...  The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...  ... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...  Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
to serve as a basis for enabling an output device	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 435 lines 16-18.  Page 267 lines 20-28 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...  All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions

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to display at least some of said data file or unit of mass medium	Column 18 lines 56-58.	... signal processor, 200, to hold examples of the sought for unique signals in its buffer/ comparator, 8, and compare them	Page 436 line 9 to page 437 line 3.	<p>described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio ...</p> <p>One company whose stock is</p>



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programming or for enabling a processor to process some processor code.			with all incoming signals.		<p>preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".</p> <p>... said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information....</p>
				Page 422 lines 33 to Page 423 line 4.	
15. The method of claim 13, said method further comprising the steps of:	<p>Column 4 lines 5-9.</p> <p>Column 16 lines 25-32.</p>	<p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...</p> <p>One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.</p>		<p>Page 13 lines 25-28.</p> <p>Page 319 lines 23-30.</p>	<p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.</p> <p>One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.</p>
selecting one from the	Column 3 lines 6-8.	Examples of signal words are a string of	Examples of signal words are a string of one	Page 14 line 35 to page	Examples of signal words are a string of one

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<p>group consisting of:            (1) a datum that identifies a unit of computer software in said signal containing a data file or unit of mass medium programming;</p>	Column 19 lines 46-48.	<p>one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.</p>	<p>15 line 2.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8</p>	<p>or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>	
	Column 3 lines 6-8.	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.</p>	<p>Page 14 line 35 to page 15 line 2.</p> <p>Page 23 line 35 to page 24 line 4.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the</p>	
	Column 19 lines 46-48.			<p>Page 37 line 26 to page 38 line 8</p>	

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				relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
(3) a datum that is part of a decryption code;	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 13 lines 31-32.	The signal or signals may transmit a code or codes necessary for the decryption of the transmission.	Page 292 lines 7-11.	Receiving said message causes controller, 20, to load the enable-CC13 instructions and the enable-WSW instructions of the information segment of said message at particular RAM of controller, 20, and execute said instructions as the machine language instructions of one job.
			Page 54 lines 2-6.	An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art.
			Page 294 lines 28-35.	Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,....
			Page 295 line 27 to page 296 line 2.	... thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above,

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				encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program...
(4) a comparison datum that designates a communication schedule; and	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....

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embedding said selected one in said signal containing a data file or unit of mass medium programming.	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 28 lines 26-27.  Page 49 lines 26-27.	... monitor information that identifies what programming is available, ...  Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 21 lines 23-24.  Page 59 lines 29-33.	... instruction signals embedded in the "Wall Street Week" programming transmission.  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.  Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
16. The method of claim 13, further comprising the step of storing some	Column 15 lines 62-63.	[The signals for which the decoders are monitoring] may convey unique identifier codes for each program or commercial.	Page 49 lines 26-28.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:

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information at said storage device to evidence an availability, use, or usage of said one or more instruct signals, said evidence information designating or identifying one or more of: (1) a mass medium program;		Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 50 lines 6-7.  Page 319 lines 30-33.	... unique identifier codes for each program unit (including commercials); ...  For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.
(2) a use of programming;		Column 18 lines 30-35.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned, ...	Page 408 lines 18-29  Page 414 lines 13-27  Page 15 lines 16-22	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.  Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.  The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means

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				Page 411 lines 10-15	<p>of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p>
(3)	a transmission station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	<p>Page 49 lines 26-28.</p> <p>Page 50 lines 1-4.</p>	<p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <p>... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...</p>
(4)	a receiver station;	Column 16 lines 45-47.	This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.	Page 320 lines 27-31.	<p>So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131....</p>

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(5) a network;	Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 319 lines 30-33.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	
(6) a broadcast station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...	
(7) a channel on a cable system;	Column 16 lines 35-39.	Recorder, 135, might receive the programming over Manhattan Cable TV channel 4 and record the programming from 7:00 PM to 7:30 PM on the evening of July 15, 1985.	Page 319 line 33 - Page 320 line 2.	Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985.	
(8) a time of transmission;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...	
(9) an instruct signal;	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 315 lines 20-24.  Page 44 lines 26-32.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.  Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and	



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				<p>the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.</p> <p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <ul style="list-style-type: none"> <li>... unique codes for programming; ... and</li> <li>unique codes that identify the sources and suppliers of computer data.</li> <li>... <b>monitor information that identifies what programming</b> is available, ...</li> </ul>
			<p>Page 49 line 26 to page 50 line 20.</p> <p>Page 28 lines 26-27.</p>	
(10) a source or supplier of data;	Column 15 lines 63-65.	In the case of data transmitted to the micro-computer, [the signals for which the decoders are monitoring] may be unique codes that identify the source and suppliers of the data.	<p>Page 49 lines 26-28.</p> <p>Page 50 lines 19-20.</p>	<p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ...</p> <ul style="list-style-type: none"> <li>... unique codes that identify the sources and suppliers of computer data.</li> </ul>
(11) a distributor, or an advertisement; and	Column 15 lines 65-68.	In the case of data received at the printer, [the signals for which the decoders are monitoring] may identify publications, articles, publishers, distributors, advertisements, etc.	<p>Page 321 lines 1-6.</p> <p>Page 360 lines 31-34.</p> <p>Page 496 lines 12-13.</p>	<p>Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming when said tapes or discs are played. For example, laser disc player, 232, can</p> <p>For example, another of the aforementioned discounts and cents-off coupon specials is of a particular product ... that is advertised ...</p> <p>At printer, 221, the printed so-called "hard copy" of said offer and coupon information</p>

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			Page 496 lines 28-35.	emerges as: ..... · 15 cents off            15 cents off · Nabisco Zweiback Teething Toast · · · · · · .....
(12) an indication of a payment obligation.	column 20 lines 49-58.	...and thence to printer, 221, for printing. Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received. Subsequently, when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, that site can determine for billing purposes that the recipe was, first, ordered and, second, delivered.	Page 49 lines 26-28.  Page 50 lines 14-17.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ...unique codes for programming (other than programming identified by program unit codes) whose use obligates users to make payments (eg., royalties and residuals);....
17. The method of claim 13, wherein said one or more instruct signals comprise downloadable code, said method further comprising the steps of: selecting a control signal, said control signal being one of:	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....

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			Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
(1) a switch control signal;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
(2) a timing	Column 11 lines 38-39.	By comparing identification signals on	Page 327 line 35 to	Computer, 73, monitors incoming

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control signal;			the incoming programming ...	page 328 line 13.
				programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ... ... monitor information that identifies what programming is available, ... Meter-monitor segments contain meter information and/or monitor information.
				At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information
(3) a locating control signal;	Column 14 lines 54-55.	If signal processor, 112, has been preprogrammed with the signal or signals ...		Page 84 lines 26-28.
	Column 14 lines 54-61.	If signal processor, 112, has been preprogrammed with the signal or signals or if it has been informed of the predetermined fashion for identifying and processing the the needed signal or signals		Page 28 lines 26-27. Page 49 lines 26-27.

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	<p>in the incoming transmission from facility, 113,</p> <p>for example, where to look for the signals</p> <p>and when</p>	<p>that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ...  Receiving any given instance of please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to select particular WSW-on-CC13-at-particular-8:30 information in said received information, record said selected information at particular memory, and execute particular receive-authorizing-info-at- appointed-time instructions. ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20, ...</p> <p>... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200,....</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, ...</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the</p>	

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			<p>OR</p> <p>Page 297 lines 20-21.</p> <p>and how,</p> <p>Page 290 lines 11-12, lines 21-26.</p> <p>Page 291 lines 21-28.</p> <p>Page 295 line 30 to page 296 line 1.</p>	<p>aftermentioned 8:30 PM time....</p> <p>Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20, ...</p> <p>....transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6,...</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aftermentioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. ...</p> <p>Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion....</p>

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	Column 14 lines 46-54.	The signal or signals necessary for the decryption of the channel that box, 114, passes to decryptor/interruptor, 115,	299 lines 13-18.  Page 299 lines 13-25.	<p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. ...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, ...</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, ...</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...</p>
		in this case, is not located in the channel transmission.	Page 298 line 34 to page 299 line 1.	
		They may be preprogrammed into the signal processor (for example,	Page 299 lines 13-17.	
			Page 298 line 33 to page 299 line 1.	

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		in programable random access memory controller, 20, in Fig. 1) or they may be transmitted in a channel other than the channel being transferred from box, 114.	Page 293 line 20.  Page 291 lines 10-20.	...such as, for example, the RAM of controller, 20; ...  ...said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and ... enable-WSW instructions that include particular enable-WSW-programming information, ... <b>on the frequency of said master control channel.</b> (Hereinafter said message is called the "local-cable-enabling-message (#7).") ...  ... said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ...  ...particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system ...  Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ...
(4) an instruct-to-contact signal that designates a remote receiver station;	Column 8 lines 58-62.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2. An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit.	Page 290 lines 26-31.	... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...



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			Page 291 lines 21-24.	In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.  ... causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.  Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30. Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.  Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...
			Page 59 lines 29-31.	
			Page 402 lines 22-26.	
			Page 403 lines 7-12.	
			Page 405 lines 20-29.	
(5) an instruct-to-transfer signal that designates a unit of broadcast or cablecast programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information,

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				<p>received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	
(6) an instruct-to-delay signal that designates a unit of broadcast or cablecast programming;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can</p>

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				<p>determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	
(7) an instruct-to-decrypt or instruct-to-interrupt signal that designates a unit of programming and a way to decrypt or interrupt;	Column 13 lines 24-25.	The signal or signals instruct decrypter/interrupter, <b>101</b> , to decrypt the transmission ...	Page 298 lines 10-21.	<p>Receiving the</p> <p>"1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load- and-run-@20 instructions, to load the 1st-stage-enable-WSW-program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job.</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p>
(8) an instruct-to-enable or instruct-to-disable signal that designates an apparatus;	Column 20 lines 31-37.	This signal instructs buffer/comparator, <b>8</b> , that, if 567 has been received from signal generator, <b>225</b> , signal processor, <b>200</b> , should, in a predetermined fashion, instruct tuner, <b>223</b> , to tune cable converter box, <b>222</b> , to the appropriate channel to receive the recipe in encoded digital form and instruct control means,	Page 471 line 26 to page 472 line 17.	<p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder,</p>

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		<p>226, to activate printer, 221.</p>	<p>145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p> <p>... instructions causes microcomputer, 205, to</p>
		<p>476 line 34 to page 477 line 8.</p>	
		<p>Page 477 lines 8-17.</p>	
		<p>Page 474 lines 3-7.</p>	

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	Column 20 lines 45-46.	... and all necessary equipment was enabled.	Page 473 line 29 to page 474 line 1.	<p>generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...</p> <p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said <b>generate-recipe-</b> ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.</p>
(9) an instruct-to-record signal that designates a broadcast or cablecast program;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p>
			Page 84 lines 26-28.	

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	<p>Column 19 lines 20-27.</p>	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p> <p>Then, in a predetermined fashion, microcomputer, 205, may</p>	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 436 line 9 to page 437 line 6.</p>	<p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p>
			<p>Page 439 lines 9-15.</p>	

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			instruct tuner, 214, to switch box, 201, to channel X	Page 439 lines 9-15	...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ... ...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
			and may instruct and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 295 lines 6-8.  Page 445 lines 24-27.  Page 446 lines 18-23.	
(10) a control signal that controls a multimedia presentation;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus		

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			Page 26 lines 4-11.	...
	Column 19 line 30.	<b>Co-ordinating Multimedia Presentations in Time</b>	Page 451 line 3.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
(11) a control signal that governs a broadcast or cablecast receiver station environment;	Column 17 lines 56-62.	One or more channels of television programming transmissions inputted to signal processor, 200, and cable converter box, 201, may contain signals intended for microcomputer, 205, which signals convey information on local weather conditions. Such signals might include current outside temperature and barometric readings. They might include forecast data.	See generally page 447 line 25 to page 457 line 10.	<b>Controlling Computer-based Combined Media Operations</b>
	Column 17 line 54.	<b>Governing the Home or Office Environment</b>	Page 396 line 33 to page 397 line 4.	Particular SPAM regulating messages are embedded in one or more television program channels that are inputted to signal processor, 200, and cable converter box, 201. Said messages include weather information and instructions, including, for example, current outside temperature information, barometric readings, and forecast data.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	See generally page 396 line 30 to page 406 line 31. (Page 396 line 30 quoted herein.)	<b>Automating U. R. Stations ... Regulating Station Environment</b>
(12) an instruct-to-power-on signal that designates a receiver;			Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has



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				<p>been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in television or radio or other programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 267 lines 20-28 from example #5.	
			Page 435 lines 16-25.	

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			<p>Page 436 line 9 to page 437 line 3.</p>	<p>of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ... Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>...to receive the transmission of cable channel 13;...</p>	
			<p>Page 439 lines 14-15.</p>		

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	Reference	Language	Reference	Language
	Column 19 lines 27-28.	... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...	Page 445 line 24 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
(13) an instruct-to-tune signal that designates a receiver or a frequency;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter

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	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 267 lines 20-28 from example #5.	information and/or monitor information.  All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)  In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ... Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.  Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information. Executing said determine-whether-to-select instructions causes microcomputer, 205, to... Said instructions contain one instance, and ... program-unit-of-interest information that is
			Page 435 lines 16-25.	
			Page 436 line 9 to page 437 line 3.	

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	Reference	Language	Reference	Language
				<p>preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....</p>
	Column 19 lines 28-29.	...and tuner, 215, to tune appropriately to "Wall Street Week."	<p>Page 439 lines 14-15.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>	
(14) an instruct-to-coordinate signal that designates two apparatus;	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer,	Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ...

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	Reference	Language	Reference	Language
		<p><b>205</b>, determines that "Wall Street Week" is being televised on channel X.</p> <p>Then, in a predetermined fashion, microcomputer, <b>205</b>, may</p>		<p>the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said</p> <p>program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>... instructions causes controller, 20, ...; to</p>
		<p>instruct tuner, <b>214</b>, to switch box, <b>201</b>, to channel X</p>	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p>	
		<p>and may instruct control system, <b>220</b>, to</p>	<p>Page 445 lines 24-27.</p>	

Claim Language	Support to parent application filed November 3, 1981.	Language	Reference	Support to instant specification.	Language
		<p>turn video recorder, 217, on and record "Wall Street Week,"</p> <p>and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on</p> <p>and tuner, 215, to tune appropriately to "Wall Street Week."</p> <p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...</p>	<p>Page 446 lines 18-23.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p> <p>Page 25 line 33 to page 26 line 2..</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well</p>	

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	Reference	Language	Language
			Reference
			known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
			<b>Controlling Computer-based Combined Media Operations</b>
			Page 26 lines 4-8.
			See <i>generally</i> page 447 line 25 to page 457 line 10.
			Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200. Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ... In due course, said remote news-service-A station ...
			Computer, 73, monitors incoming
			Page 327 line 35 to
			By comparing identification signals on
			Column 11 lines 38-39.
			Column 19 line 30.
			Co-ordinating Multimedia Presentations in Time
			Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.
			Column 18 lines 48-55.
			(15) an instruct-to-compare signal that designates a news transmission or a computer input;
			(16) an identifier



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		Reference	Language
		Reference	Language
signal that causes a computer to instruct a plurality of tuners each to tune to a broadcast or cablecast transmission;	the incoming programming ...	page 328 line 13.	programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
		Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
		Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
		Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 20-25.  Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is

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				<p>preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via</p>
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	
	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	

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		Reference	Language	Reference	Language
(17) an instruct-to-coordinate signal that designates two units of multimedia information and one of: (1) an output time and (2) an output place;				Page 446 lines 17-21.	said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.  In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
		Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
				Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV

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	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	<p>Page 451 line 3.</p> <p>Page 18 lines 24-27.</p> <p>page 450 line 27 to page 451 line 11.</p>	<p>monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>
(18) an instruct-to-	Column 19 line 60 to	At this point, an instruction signal is	Page 25 line 34 to page	At this point, an instruction signal is generated

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		Reference	Language	Reference	Language
generate signal that designates an output datum;	column 20 line 1.	generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	26 line 2.  Page 37 line 26 to page 38 line 8.	at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.	
		This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.  The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...	
(19) an instruct-to-transmit signal that designates a computer output;	Column 19 line 60 to column 20 line 1.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 2.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by	



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		Reference		Reference	
		Language		Language	
		microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.		Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
				Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
				Page 451 line 3.	And the Fig. 1C combining is displayed.
(21) an instruct signal that designates a function to perform if a predetermined condition exists;	Column 20 lines 27-36.	Five minutes later,  a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.		Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be

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			<p>This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion,</p> <p>instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...</p>	<p>transferred to the controller, 20, of signal processor, 200.</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause an instance of ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p>	
(22) an instruct-to-enable-and-deliver signal that designates information that supplements a	Column 19 lines 63-66.	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,</p>	Page 26 lines 1-8.	<p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer,</p>	



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	Reference	Language	Reference	Language
television program;			<p>Page 37 line 26 to page 38 line 8.</p> <p>205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p>	
(23) an instruct-to-transmit signal that designates a computer peripheral device;	Column 19 lines 63-66.	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,</p>	<p>Page 26 lines 1-8.</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques</p>	
			<p>Page 37 line 26 to page 38 line 8.</p>	

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				well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
(24) a code signal that designates a datum to remove or embed; and	Column 12 lines 35-41.	The cable head end facility also contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from programming as required, and signal generators, 82, 86, and 90, also well known in the art, that controller/ computer, 73, can instruct to add signals to programming as required.	Page 354 lines 18-24.	Fig. 6 shows signal strippers, 81, 85, and 89, of which models exist well known in the art, that computer, 73, can cause to remove SPAM information from programming as required, and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.
(25) a signal addressed to a receiver station apparatus; and	Column 18 lines 1-7.	Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205. Microcomputer, 205, uses such received signals, in a predetermined fashion, to govern the operation of furnace, 206, air conditioning system, 207, and window opening and closing means, 208.	Page 400 lines 3-4.  Page 35 lines 11-15.	Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to ...  ... the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which...
			Page 35 lines 24-27.	... said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.
			Page 35 lines 28-31.	... separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs

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			<p>Page 400 lines 6-18. See Fig. 3A regarding the composition of controller 39.</p> <p>Page 37 line 28 to page 38 line 8.</p> <p>Page 400 lines 19-22.</p> <p>Page 401 lines 14-17.</p>	<p>detected signal information to controller, 39.</p> <p>Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to ... to input the information of the information segment of said message to the CPU of microcomputer, 205; ... and to cause said CPU to execute the information so inputted as a machine language job.</p> <p>Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>So executing said information causes microcomputer, 205, to reducing the power usage of said air conditioning system, 207, causes any open windows at said station to be closed.</p> <p>In this fashion, SPAM messages can control and regulate the operation of individual subscriber station controlled apparatus (the thermostat control of furnace, 206, for example, could be similarly controlled) ...</p>
embedding said selected control signal in said signal containing a data file or unit of mass medium programming.	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.

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18. An apparatus for providing a mass medium programming presentation comprising:	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 390 lines 30-35.  Page 396 lines 8-10.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.  Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.	
an output device for outputting a mass medium programming presentation to a user;	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.  Page 446 lines 17-21.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.  In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...	
a storage device operatively connected to said output device for storing and	Column 18 lines 65-67.	... and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ...	Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T	

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	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.	news item.)  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a  (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing
			Page 44 lines 14-17.	
			Page 26 lines 20-28.	

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communicating mass medium program materials and	Column 19 lines 39-41.	[Microcomputer, 205,] records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	loading and running information for a particular combining.)  Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer.	
one or	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.	
more embedded instruct signals effective at the apparatus to supplement or complete said mass medium program materials	Column 19 lines 20-25.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...  Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...  Said instructions contain one instance, and	

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				<p>... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once.</p>
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	
	Column 4 lines 14-17.	The embedded signals may run and repeat continuously throughout the programing or they may run only occasionally or only once.	Page 14 lines 3-5.	

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	Column 19 lines 14-15.	... pass all program and channel identifiers on all programing being cablecast on the multi-channel system.	Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...
			Page 248 lines 22-26 from example #5.	Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.
			Page 250 lines 13-16 from example #5.	Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...
			Page 252 lines 15-35 from example #5.	Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes the microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that includes the " <b>program unit identification code</b> " and subject matter information of said first command and the <b>channel mark of cable channel 13</b> ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if



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based on stored data;			Page 267 lines 20-28 from example #5.	said program is of interest, ...  All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
	Column 19 lines 5-8.	In another example, microcomputer, 205 may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, 202, when it is cablecast.	Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
			Page 428 lines 21-26.	The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said

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a detector operatively connected to said storage device for detecting said one or more embedded instruct signals; and	Column 6 lines 23-30.	A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input is shown in Figure 1. As shown, the input signals are the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.	Page 29 lines 4-15.	station to view (or record) said "Wall Street Week" program when said program is transmitted.
	Column 6 lines 48-50.	This base band signal is then transmitted through separate paths to three separate detector devices.	Page 34 line 35 to page 35 line 1.	Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input. ... The inputted information is the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.
	Column 4 lines 14-17.	The embedded signals may run and repeat continuously throughout the programming or they may run only occasionally or only once.	Page 14 lines 3-5.	This base band signal is then transferred through separate paths to three separate detector devices.
	Column 19 lines 18-20.	[processor or monitor, 12, reacts] ... in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14.	Page 435 lines 16-18.	In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once.
			Page 267 lines 20-28 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...  All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
				In example #5, controller, 12, is

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			Page 268 line 28 to page 269 line 12 from example #5.	preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. ... Automatically, control processor, 121, transfers to buffer/comparator, 14, via matrix switch, 12 I, header information that identifies a transmission of monitor information of available programming then all of the information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred--together with its newly added header information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).)
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
a processor operatively connected to said storage device,	Column 19 lines 42-44.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 20-24.	Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
said output device, and	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 1-2.  Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information

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said detector for processing data and	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 26 lines 4-11.	<p>automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station</p>
			Page 451 line 3.	
			Page 435 lines 16-18.	
			Page 267 lines 20-28 from example #5.	

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controlling said storage device and	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct	<p>Page 436 line 9 to page 437 line 3.</p> <p>Page 439 lines 14-15.</p> <p>Page 23 line 35 to page 24 line 16.</p>	<p>receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to</p>

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		microcomputer, 205, ... upon command.		microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
			Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
said output device to	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor,

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output said mass medium program materials and	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 446 lines 17-21.	202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.  In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
			Page 26 lines 1-2.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.

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			Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
the supplemental or	Column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 451 line 3.	And the Fig. 1C combining is displayed.
completion information	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 8-11.	TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...
			Page 451 line 3.	And the Fig. 1C combining is displayed.
			Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
in accordance with said embedded instruct signals.	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
			Page 435 lines 16-25.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance



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			<p>of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>	
			<p>Page 436 line 9 to page 437 line 3.</p>	
			<p>Page 439 lines 14-15.</p>	

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	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programing transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
19. A transmitter station apparatus comprising:	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programing or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
a transmitter for transmitting a mass medium programming signal;	Column 10 lines 43-47.  Column 12 lines 57-61.	... and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.  This particular embodiment describes a transmission facility transmitting only television programing. The facility could also process and transmit radio programing and other electronic data according to the methods described here ...	Page 325 lines 1-4.  Page 339 lines 9-26.	... apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.  So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...

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a storage device operatively connected to said transmitter for	Column 10 lines 42-43.  Column 10 lines 40-47.	... one or more video recorder/players, 76 and 78, ...  All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 324 line 35.  Page 324 line 31 to page 325 line 4.	... one or more recorder/players, 76 and 78, ...  Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
storing and outputting mass medium program materials and	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for <b>delayed transmission</b> , controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder,

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one or	Column 19 lines 63-66.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	Page 26 lines 1-8.	76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.  Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...	
more instruct signals effective at a receiver station apparatus	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the	

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to supplement or	<i>In General</i> Column 17 lines 39-46.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to	<i>In General</i> Page 15 lines 16-23.	input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
			Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
				The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...

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		such equipment as <b>directed</b> . This permits many valuable techniques for facilitating the operation of such external equipment.	Page 34 lines 24-26.	... identifies the particular apparatus to which said signals are <b>addressed</b> , and outputs said signals to said apparatus ...
			Page 44 lines 14-15.	A command is an instance of signal information that is <b>addressed</b> to particular subscriber station apparatus and that ...
			Page 95 lines 18-21.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is <b>addressed</b> to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
			Page 390 lines 26-29.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.
	<i>More particularly,</i> Column 18 lines 1-2.	Decoder, <b>203</b> , transfers all received signals to processor or monitor, <b>204</b> , ...	<i>More particularly,</i> Page 400 lines 3-4	Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to ...
			Page 35 lines 11-15	... the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which...
			Page 35 lines 24-27	... said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.
			Page 35 lines 28-31	... separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs

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	Column 18 lines 2-4	[processor or monitor, 204] ... identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.	Page 400 lines 6 - 18 See Fig. 3A regarding the composition of controller 39	detected signal information to controller, 39.  Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to locate the Weather-Bulletin-125 identification information of said message; to determine that said information does not match particular information at particular last-weather-bulletin-identification RAM associated with said control processor, 39J; to input the information of the information segment of said message to the CPU of microcomputer, 205; to retain information of said Weather-Bulletin-125 identification information at said last-weather-bulletin-identification RAM; and to cause said CPU to execute the information so inputted as a machine language job.
			Page 37 line 28 to page 38 line 8	Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	<i>Specifically</i> Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	<i>Specifically</i> Page 26 lines 1-2.  Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the

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complete said mass medium program materials	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.	relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a  (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a
			Page 44 lines 14-17.	
			Page 26 lines 20-28.	



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based on stored data;	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to	Page 23 line 35 to page 24 line 16.	<p>combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function</p>
		generate several graphic video overlays, ...	Page 451 lines 7-11.	
		and to transmit these overlays to TV set, 202,	Page 26 lines 4-8.	
		upon command.	Page 44 lines 14-17.	

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				or functions. (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...
a detector operatively connected to said storage device for detecting said one or more instruct signals; and	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 26 lines 20-28.  Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
a computer operatively connected to said storage device and said signal detector for controlling communication of said one or more instruct signals from said storage device to said transmitter.	Column 11 lines 38-46.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each

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			Page 84 lines 26-28.	received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....  ... monitor information that identifies what programming is available, ...  Meter-monitor segments contain meter information and/or monitor information.  Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...  When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.  The present invention employs signals embedded in programming.
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
			Page 328 lines 14-16.	
			Page 325 lines 6-9.	
			Page 13 lines 25-26.	
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.  These techniques employ signals embedded in programs.		
	Column 4 lines 5-6.			
20. The transmitter station apparatus of claim 19, further comprising: a signal generator operatively connected to said transmitter and said computer for receiving said one or more instruct signals and embedding said one or more instruct signals on mass medium	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/ computer, 73, can instruct to add signals to programming as required.	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.

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programming signal.		Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
		Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a <b>single channel</b> of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
21. The method of claim 3, wherein said storage device comprises one or more storage locations		Column 10 lines 42-43.	... one or more video recorder/players, <b>76</b> and <b>78</b> , ...	Page 324 line 35.	... one or more recorder/players, 76 and 78,...
		Column 11 lines 66 to Column 12 line 8.	Recorder/players, <b>76</b> and <b>78</b> , can communicate programming with each other through matrix switch, <b>75</b> .	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
				Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
			If controller/ computer, <b>73</b> , determines at	Page 331 lines 17-33.	Computer, 73, has capacity for automatically

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	<p>any time that it is necessary</p> <p>to reorganize the order in which programing units are stored on either recorder/player or on both,</p> <p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 lines 16-25.</p> <p>Page 334 lines 1-6.</p> <p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According</p>

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				to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
			For example, page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.

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in a	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programing or a cable system cablecasting many channels.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.	Page 324 lines 8-17.	
network.	Column 15 lines 60-62.				
		[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...	Page 49 lines 26-28.  Page 50 lines 1-4.	
22. The method of claim 3, wherein said storage device comprises a memory.	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	... one or more recorder/players, 76 and 78, ...	Page 324 line 35.	
23. The method of claim 22, wherein said memory comprises a tape.	Column 10 lines 48-49.	Programming can also be manually delivered to the facility on prerecorded video tapes and videodiscs.	Programming can also be manually delivered to said station on prerecorded videotapes and videodiscs.	Page 325 lines 5-6.	
24. The method of	Column 10 lines 48-49.	Programming can also be manually delivered	Programming can also be manually delivered	Page 325 lines 5-6.	

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claim 22, wherein said memory comprises a disk.		to the facility on prerecorded video tapes and videodiscs.		to said station on prerecorded videotapes and videodiscs.
25. The method of claim 3 further comprising the step of communicating one of said television signal and said instruct signal from a first part of said storage device to a second part of said storage device.	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programing with each other through matrix switch, 75.  If controller/ computer, 73, determines at any time that it is necessary  to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 332 lines 24-30.  Page 333 lines 15-21.  Page 331 lines 17-33.  Page 331 lines 16-25.  Page 334 lines 1-6.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.  Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.  Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...  Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.  In this fashion, computer, 73, causes units Y



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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p>	<p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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				and recorder, 78, to record for the duration of program unit D. ...  Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...  In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			For example, page 333 lines 15-21.  For example, page 334 lines 1-6.	
26. The method of claim 25, further comprising the step of reorganizing the storage of said television signal and said instruct signal at said storage device.	Column 12 lines 1-3.	... to reorganize the order in which programming units are stored on either recorder/player or on both, ...	Page 331 lines 16-25.  Page 334 lines 1-6.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.  In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language

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27. The method of claim 13, wherein said storage device comprises one or more storage locations in a	Column 10 lines 42-43.  Column 10 lines 15-20.	... one or more video recorder/players, 76 and 78, ...  The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 line 35.  Page 324 lines 8-17.	... one or more recorder/players, 76 and 78, ...  The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.  Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
network.	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	

28. The method of claim 13, wherein said storage device comprises a memory.	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 35.	... one or more recorder/players, 76 and 78, ...
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29. The apparatus of claim 18, wherein said storage device comprises one or more storage locations in a network.	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	... one or more recorder/players, 76 and 78, ...	Page 324 line 35.	
	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.	Page 324 lines 8-17.	
	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...	Page 49 lines 26-28.  Page 50 lines 1-4.	
30. The apparatus of claim 18, wherein said storage device comprises a memory.	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	... one or more recorder/players, 76 and 78, ...	Page 324 line 35.	
31. The transmitter station apparatus of claim 19,	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	... one or more recorder/players, 76 and 78, ...	Page 324 line 35.	

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wherein said storage device comprises one or more storage locations in a	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.	
network.	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...	
32. The transmitter station apparatus of claim 19, wherein said storage device comprises a memory.	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 35.	... one or more recorder/players, 76 and 78, ...	
<b><u>First Embodiment:</u></b>					
33. A method of	Column 19 lines 60-63.	At this point, an instruction signal is	Page 59 lines 29-33.	A SPAM message is the modality whereby the	

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processing signals to control			generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 436 line 9 to page 437 line 6.</p>	<p>original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and</p>
at least one of a television and	Column 19 lines 20-25.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...			

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a media presentation comprising the steps of:	Column 19 lines 31-34.	FIG 6C can also illustrate how programing delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.		<p><b>determines a match with said second instance.</b></p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said</p>
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	
			Page 18 lines 24-27.	
			page 450 line 27 to page 451 line 11.	

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				<p>"Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>
receiving a television signal containing first television programming and	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	<p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio <b>generated</b> graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.</p>
communicating said television signal and said first television programming to a storage device, said first television programming	Column 19 lines 62-63  Column 10 lines 30-39.	<p>... and [the instruction signal] is transmitted in the programming transmission.</p> <p>The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received</p>	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 324 lines 23-31.</p>	<p>... an instruction signal is ... embedded in the programming transmission, and transmitted.</p> <p>The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and</p>



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	<p>by microwave antenna, <b>57</b>, and television video and audio receivers, <b>58</b> and <b>59</b>. Conventional TV broadcast transmissions can be received by antenna, <b>60</b>, and TV demodulator, <b>61</b>. Other electronic programming input means, <b>62</b>, can receive programming transmissions.</p>	<p>television video and audio receivers, <b>58</b> and <b>59</b>. Conventional TV broadcast transmissions are received by antenna, <b>60</b>, and TV demodulator, <b>61</b>. Other electronic programming transmissions are received by other programming input means, <b>62</b>.</p>
<p>Column 10 lines 40-43.</p>	<p>All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, <b>75</b>), to one or more video recorder/players, <b>76</b> and <b>78</b>, ...</p>	<p>Each receiver/modulator/input apparatus, <b>53</b> through <b>62</b>, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, <b>75</b>, well known in the art, that outputs to one or more recorder/players, <b>76</b> and <b>78</b>, ...</p>
<p>including audio;</p>	<p>Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.</p>	<p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, <b>202M</b>.</p>
<p>receiving processor instructions which are</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming ...</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p>
	<p>Column 19 lines 53-56.</p>	<p>At this point, an instruction signal is generated at said program originating studio, ...</p>
	<p>Page 90 lines 4-7.</p>	<p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-</p>

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capable of	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The</p>
instructing a computer to present,	Column 19 lines 20-25.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 436 line 9 to page 437 line 6.</p>	

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		<p>predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...</p>		<p>information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p>
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	

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with said first television programming at	Column 17 lines 39-41.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, ...	Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions. ....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...	
at least one output device,	Column 18 lines 43-45.	Figure 6C illustrates methods for monitoring multiple programming channels and selecting programming and information in a predetermined fashion.	Page 419 line 34 to Page 420 line 2.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.	
	<u>OR</u> Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	<u>OR</u> Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.	
			Page 396 lines 8-10.	Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.	
information to at least one of complete and	Column 19 line 64 to column 20 line 2.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 4-11.	... "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.	
			Page 451 line 3.	And the Fig. 1C combining is displayed.	

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supplement said first television programming;		Column 17 lines 39-46.	Signal processor apparatus have the ability to identify instruction and inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment.	<p>Page 15 lines 16-23.</p> <p>Page 34 lines 24-26.</p> <p>Page 44 lines 14-15.</p> <p>Page 95 lines 18-21.</p> <p>Page 390 lines 26-29.</p>	<p>The frequencies may convey television, radio, or other programming transmissions. ... The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...</p> <p>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.</p> <p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.</p>
selecting at least one of:		Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
(1) at least one first time at which to communicate said processor instructions; and		Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
				Page 25 lines 34-35.	At this point, an instruction signal is

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				generated at said program originating studio, ...  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.  In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...  Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.  Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...  Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter-monitor segment immediately following said execution segment
	<i>With respect to</i> Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	<p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p><i>With respect to</i> Page 435 lines 16-18.</p> <p>Page 248 lines 22-26 from example #5.</p> <p>Page 250 lines 13-16 from example #5.</p> <p>Page 252 lines 15-35 from example #5.</p>	

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(2) at least one first location to which to communicate said processor instructions;	Column 19 lines 43-44.  Column 3 lines 6-8.  <i>For example,</i> Column 4 lines 18-22.	... instruction signals embedded in the "Wall Street Week" programming transmission.  Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range	Page 21 lines 23-24.  Page 14 line 35 to page 15 line 2.  <i>For example,</i> Page 14 lines 6-11.	information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...  All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)  ... instruction signals embedded in the "Wall Street Week" programming transmission.  Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they

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communicating said processor instructions to said storage device based on said step of selecting; and	Or: Column 4 lines 25-26.	of the television picture displayed on a normally tuned television set.  In television audio, they are likely to lie between eight and fifteen kilohertz.	Or: Page 14 lines 14-15.	will probably lie outside the range of the television picture displayed on a normally tuned television set.  In television audio, they are likely to lie between eight and fifteen kilohertz.
	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...
			Page 248 lines 22-26 from example #5.	Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.
			Page 250 lines 13-16 from example #5.	Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...
			Page 252 lines 15-35 from example #5.	Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes the microcomputer, 205, to process the information of the meter-monitor segment immediately following said execution segment



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				information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...
			Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 4 lines 18-22.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.	Page 14 lines 6-11.	In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.
	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a

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		Column 10 lines 40-43.	received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.		satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
		Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
storing said television signal, said first television programming, and said processor instructions at said storage device		Column 11 lines 39-41.	... received earlier from local input, 74, and/or from a remote site via network, 98, ...	Page 328 line 10.	... received earlier from input, 74, and/or network, 98, computer, 73, ...
		Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 326 lines 28-30.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
concurrently.		Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
				Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ...

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				to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
<b><u>Second Embodiment:</u></b>				
33. A method of processing signals to control	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
at least one of a television and	Column 19 lines 20-25.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...

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				<p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel</p>
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	
a media presentation comprising the steps of:	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 18 lines 24-27.	

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				page 450 line 27 to page 451 line 11.	presentations.  (To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
receiving a television signal containing first television programming and	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.		Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio <b>generated</b> graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
communicating said television signal and	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.		Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.

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said first television programming to a storage device, said first television programming	Column 10 lines 30-39.	The facility receives programing from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
including audio;	Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
receiving processor instructions which are	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission

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capable of			<p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is <b>generated</b> at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p>
	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...		
			Page 84 lines 26-28.	

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instructing a computer to present,	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
with said first television programming at	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals	Page 49 lines 26-27.	
			Page 354 lines 21-24.	



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	Column 11 lines 50-57.	to programming as required. ... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 22 to page 329 line 1.	required.  For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
at least one output device,	Column 12 lines 45-46.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming ...	Page 337 lines 3-10.	In field distribution system, 93, amplifier, 94, inputs ... all programming transmitted by the cable television system head end station...
information to at least one of complete and	Column 19 line 64 to column 20 line 2.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 4-11.	... "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
supplement said first	Column 17 lines 39-46.	Signal processor apparatus have the	Page 451 line 3.  Page 15 lines 16-23.	And the Fig. 1C combining is displayed.  The frequencies may convey television, radio,

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television programming;			ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment.		<p>or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...</p> <p>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.</p> <p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.</p>
				Page 34 lines 24-26.  Page 44 lines 14-15.  Page 95 lines 18-21.  Page 390 lines 26-29.	
selecting at least one of:		Column 19 lines 62-63  Column 11 lines 38-39.	<p>... and [the instruction signal] is transmitted in the programming transmission.</p> <p>By comparing <b>identification signals on the incoming programming</b> ...</p>	Page 25 line 34 to page 26 line 1.  Page 327 line 35 to page 328 line 13.	<p>... an instruction signal is ... embedded in the programming transmission, and transmitted.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor</b></p>

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				<p><b>information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
(1) at least one first time at which to communicate said processor instructions; and	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 329 line 2-20.</p>	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...</p> <p>Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p>

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(2) at least one first location to which to communicate said processor instructions;	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...		Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...
communicating said processor instructions to said storage device based on said step of selecting; and	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...		Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.		Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...		Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution

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				<p>amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p> <p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.</p> <p>The present invention employs signals</p>
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 329 line 15-16.</p> <p>Page 25 lines 26-33.</p> <p>Page 13 lines 25-26.</p>	
storing said television signal, said first television programming, and said processor instructions at said storage device	<p>Column 11 lines 64-65.</p> <p>Column 19 line 53-56.</p>	<p>... instructs the recorder/player, 76 or 78, to turn on and record the programming.</p> <p>Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.</p>		
	Column 4 lines 5-6.	These techniques employ signals		

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concurrently.	Column 11 lines 38-39.	<p>embedded in programs.</p> <p>By comparing identification signals on the incoming programming ...</p>	Page 327 line 35 to page 328 line 13.	<p>embedded in programming.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p>
			Page 28 lines 26-27.	<p>... <b>monitor information that identifies what programming</b> is available, ...</p>
			Page 49 lines 26-27.	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
	Column 11 lines 57-60.	<p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...</p>	Page 329 line 2-20.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...</p> <p>Receiving said message causes computer, 73,</p>

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				to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
34. The method of claim 33, further comprising at least one of the steps of: embedding said processor instructions in said television signal;	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
embedding one of a code and a datum in said first television programming that	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.

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	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or information <b>message unit</b>. Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the</p>
	Page 84 lines 26-28.		Page 28 lines 26-27.	
	Page 49 lines 26-27.		Page 14 lines 27-29.	
	Column 2 lines 63-66.	(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or information <b>message unit</b> . Examples of signal units are a unique code identifying a programming unit, or a ...		
	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18.	



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				station of Fig. 7 and 7C ...  Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.  Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...  Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that includes the " <b>program unit identification code</b> " and subject matter information of said first command and the <b>channel mark of cable channel 13</b> ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...  All eight of said messages are commands.	Page 248 lines 22-26 from example #5.  Page 250 lines 13-16 from example #5.  Page 252 lines 15-35 from example #5.  Page 267 lines 20-28	

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<p>enables said computer to at least one of locate said processor instructions and to control</p>	<p>Column 19 lines 20-25.</p>	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...</p>	<p>from example #5.</p> <p>Page 436 line 9 to page 437 line 6.</p> <p>The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined</p>

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a presentation of said first television programming in accordance with said processor instructions;	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 25 lines 26-33.</p>	<p>fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.</p>
communicating a program unit identification code to said storage device	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded</p>

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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	

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and storing said program unit identification code at a storage location associated with said television programming;	Column 2 lines 63-66.	(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or <b>information message unit</b> . Examples of signal units are a unique code identifying a programming unit, or a ...  ... instructs the recorder/player, <b>76</b> or <b>78</b> , to turn on and record the programming.	Page 14 lines 27-29.  Page 329 line 15-16.	(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or <b>information message unit</b> . Examples of signal units are a unique code identifying a programming unit, or a ...  ... to cause said selected recorder, <b>76</b> or <b>78</b> , to turn on and record programming, ...
	Column 11 lines 64-65.			
	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
communicating to and storing at said storage device information	Column 11 lines 57-64.	Similarly, if controller/computer, <b>73</b> , determines that incoming programming should be recorded for delayed transmission, controller/ computer, <b>73</b> , selects a video recorder/player, <b>76</b> or <b>78</b> , in a predetermined fashion, to record the incoming programming, instructs matrix switch, <b>75</b> , to transfer the programming to the designated recorder/player, <b>76</b> or <b>78</b> , ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, <b>73</b> , to cause the recording of said programming. For example, computer, <b>73</b> , receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, <b>67</b> . Receiving said message causes computer, <b>73</b> , to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field

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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>	
			Page 84 lines 26-28.		
			Page 28 lines 26-27.		
			Page 49 lines 26-27.		

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to evidence		Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 315 lines 20-24.  Page 44 lines 26-32.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.  Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.  Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.  ... <b>monitor information that identifies what programming</b> is available, ...
at least one of an availability, use, and usage of at least one of said first television programming and said processor instructions at a subscriber station;		Column 18 lines 29-41.	FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service.	Page 28 lines 26-27.  Page 411 lines 10-11.  Page 88 lines 19-22.	In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...  ... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.
			TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210	Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ...

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		respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 414 lines 13-27.	<p>a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ...</p> <p>Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ...</p> <p>Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.</p> <p>Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of</p>
		The processors, 204 and 210, transfer this information to signal processor, 200,	Page 15 lines 16-22.	
			Page 36 lines 32-33.	
			Page 38 lines 11-14.	
			Page 411 lines 10-15.	



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				<p>example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in ...</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1<sup>st</sup> monitor information (#3).")</p>	
		<p>for recording and subsequent transmission to a remote data collection site.</p>	<p>Page 418 line 23 to page 419 line 15.</p> <p>Page 411 line 28 to page 412 line 2.</p> <p>Page 173 line 30 to page 174 line 23 from example #3.</p>		

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			Page 419 lines 4-15.	In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.
		Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a remote site.	Page 28 lines 25-35.	[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
			Page 397 lines 17-20.	Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...
storing at said storage device	Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...
at least one instruction	Column 19 lines 60 to	At this point, an instruction signal is	Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;

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which is effective at a subscriber station to generate output to be associated with said television programming;	<p>page 20 line 2.</p> <p>generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred;</p>

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storing at said storage device at least one instruction which is effective at a subscriber station				Page 26 lines 4-11.	and to transfer said signals to said apparatus ... Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And the Fig. 1C combining is displayed.
		Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 451 line 3.	
				Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes

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to display	Column 10 line 64 to Column 11 line 1.	At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93.	Page 325 lines 17-24.	said selected recorder, 76 or 78, to record said programming.	
	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 324 line 31 to page 325 line 2.	In line between each of the aforementioned receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75.	
			Page 436 line 9 to page 437 line 6.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, ...	
				Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...	
				Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.	

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		<p>Then, in a predetermined fashion, microcomputer, 205, may</p> <p>instruct tuner, 214, to switch box, 201, to channel X</p> <p>and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"</p> <p>and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on</p> <p>and tuner, 215, to tune appropriately to</p>	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 445 line 35 to</p>	<p>Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its</p> <p>...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,</p> <p>...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>...instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>...and to tune monitor, 202M, in a</p>	

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one of a combined  and a sequential presentation of said television programming  and a subscriber specific datum;		"Wall Street Week."	page 446 line 1.  Page 446 lines 17-21.	predetermined fashion.  In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...  And the Fig. 1C combining is displayed.  TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.	
	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3.  Page 26 lines 8-11.	Then the host says, "And here is what your portfolio did."	
	Column 19 lines 59-60.  Column 19 line 67 to column 20 line 1.	Then the host says, "And here is what your portfolio did."  The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 25 lines 33-34.  Page 26 lines 8-11.	TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...	
storing at said storage device at least one instruction which is effective at a subscriber station to process	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining	

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		Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 471 line 26 to page 472 line 17.	causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78, to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
a subscriber reaction to said television programming;	Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information	Page 471 lines 6-25.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...



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storing at said storage device at least one instruction which is effective at a subscriber station	Column 11 lines 57-65.	the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...		<p>that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.</p> <p>Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.</p>
	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder,</p>

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	<p>Column 13 lines 17-20.</p> <p>The signals that enable the decrypter/interrupter, 101, to decrypt and/or transfer programming uninterrupted may be embedded in the programming or may be elsewhere.</p>	<p>Page 291 lines 9-24</p> <p>Page 289 lines 22-27</p> <p>Page 290 lines 28-29</p> <p>Page 298 lines 17-21.</p> <p>Page 299 lines 19-22.</p>	<p>76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p> <p>In the interval between said commencing time and said 8:30 PM time, said head end is caused, ... to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, ... <i>on the frequency of said master control channel</i>. (Hereinafter said message is called the "local-cable-enabling-message (#7).")</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.</p> <p>particular master cable control channel (that <i>may or may not be cable channel 13</i>) from the multi-channel cable system</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p> <p>Automatically, controller, 20, causes matrix</p>

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to one of communicate to a remote station a query in respect of information to be associated with said television programming and to enable display of said television programming;	Column 15 lines 20-25.	In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.	<p>Page 311 line 33 to page 312 line 8.</p> <p>Page 293 lines 32-35.</p> <p>Page 301 lines 6-9.</p> <p>Page 308 line 35 to page 309 line 3.</p>	<p>switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, ...</p> <p>And for example, determining that a local station is not preprogrammed properly and/or that decryption, ... apparatus are not functioning correctly may cause apparatus of said station ... interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. And for example, the transmitted programming ...</p> <p>At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion....</p> <p>... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly ...</p> <p>At each station where a ... a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly ...</p>
storing at said storage device at least one instruction which is effective to control a subscriber station to receive information to supplement said television programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor</p>

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				<p><b>information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
storing at said storage device	Column 19 lines 23-27.	... microcomputer, <b>205</b> , may instruct tuner, <b>214</b> , to switch box, <b>201</b> , to channel X and may instruct control system, <b>220</b> , to turn video recorder, <b>217</b> , on and record "Wall Street Week," ...	Page 437 lines 1-6.	<p>Determining a match causes microcomputer, <b>205</b>, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, <b>20</b>.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, <b>20</b>, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, <b>201</b>, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, <b>20</b>, causes a selected tuner, <b>214</b>, to tune to the frequency of cable channel 13, thereby causing its associated converter box, <b>201</b>, to convert its...</p>
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	

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<p>at least one instruction which is effective at a subscriber station to process a digital television signal; and</p>		<p>Page 439 lines 9-15.</p>	<p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p>
		<p>Page 445 lines 24-27.</p>	<p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,...</p>
	<p>Column 19 lines 43-44.</p>	<p>Page 446 lines 18-23.</p>	<p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>
	<p>Column 19 lines 60-66.</p>	<p>Page 21 lines 23-24.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p>
		<p>Page 25 line 33 to page 26 line 2..</p>	<p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p>
		<p>Page 37 line 26 to page 38 line 8.</p>	<p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which</p>

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				Page 26 lines 4-8.	said signal information should be transferred; and to transfer said signals to said apparatus.  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
storing at said storage device	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.		Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
at least one of a code	Column 2 lines 65-66.	Examples of signal units are a unique code identifying a programming unit, ...		Page 14 lines 27-29.	Examples of signal units are a unique code identifying a programming unit, ...

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and a datum	Column 17 lines 39-44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.	Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...
to serve as a basis for one of enabling an output device	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 34 lines 24-26.	... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...
			Page 44 lines 14-15.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...
			Page 95 lines 18-21.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
			Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...
			Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
			Page 436 line 9 to page 437 line 3.	Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ...

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<p>to display at least a portion of said first television programming and enabling said computer to process said processor instructions.</p>	<p>Column 18 lines 56-58.</p>	<p>... signal processor, 200, to hold examples of the sought for unique signals in its buffer/ comparator, 8, and compare them with all incoming signals.</p>	<p>Page 439 lines 14-15.</p> <p>Page 420 lines 6-20.</p>	<p>the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio ...</p> <p>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".</p>



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				Page 422 lines 33 to Page 423 line 4.	... said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information....
35. The method of claim 33, wherein said selected at least one first location is in said television signal, said method further comprising the step of: storing information at said storage device that evidences at least one from the group consisting of: (1) a title of a television program;	Column 15 lines 62-63.	[The signals for which the decoders are monitoring] may convey unique identifier codes for each program or commercial.		Page 49 lines 26-28.  Page 50 lines 6-7.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ...unique identifier codes for each program unit (including commercials); ...
	Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.		Page 319 lines 30-33.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.
(2) a use of programming;	Column 18 lines 30-35.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned, ...		Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder,

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			Page 414 lines 13-27	<p>203, and inputted to said controller, 39, in the above described fashion.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ...</p> <p>Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p>
			Page 15 lines 16-22	
			Page 411 lines 10-15	
			Page 418 line 23 to page 419 line 15.	

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(3) a transmission station;		Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(4) a receiver station;		Column 16 lines 45-47.	This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.	Page 320 lines 27-31.	So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131....
(5) a network;		Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 319 lines 30-33.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.
(6) a broadcast station;		Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(7) a channel on a cable system;		Column 16 lines 35-39.	Recorder, 135, might receive the programming over Manhattan Cable TV channel 4 and record the programming from 7:00 PM to 7:30 PM on the evening of July 15, 1985.	Page 319 line 33 - Page 320 line 2.	Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985.
(8) a time of transmission;		Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of	Page 49 lines 26-28.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:

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	transmission.			Page 50 lines 1-4.	... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(9) an identification of an instruct signal;	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.		Page 315 lines 20-24.  Page 44 lines 26-32.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.  Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.  Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.  ... <b>monitor information that identifies what programming</b> is available, ...
(10) at least one of a source and supplier of data;	Column 15 lines 63-65.	In the case of data transmitted to the micro-computer, [the signals for which the decoders are monitoring] may be unique codes that identify the source and suppliers of the data.		Page 49 lines 26-28.  Page 50 lines 19-20.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ...  ... unique codes that identify the sources and suppliers of computer data.

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(11) at least one of a distributor and an advertisement; and		Column 15 lines 65-68.	In the case of data received at the printer, [the signals for which the decoders are monitoring] may identify publications, articles, publishers, distributors, advertisements, etc.	Page 321 lines 1-6.  Page 360 lines 31-34.  Page 496 lines 12-13.  Page 496 lines 28-35.	<p>Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming when said tapes or discs are played. For example, laser disc player, 232, can</p> <p>For example, another of the aforementioned discounts and cents-off coupon specials is of a particular product ... that is advertised ...</p> <p>At printer, 221, the printed so-called "hard copy" of said offer and coupon information emerges as:</p> <p>.....</p> <p>. 15 cents off      15 cents off .</p> <p>. Nabisco Zweiback Teething Toast .</p> <p>. . . . .</p>
(12) an indication of a payment obligation.		column 20 lines 49-58.	<p>...and thence to printer, 221, for printing. Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received. Subsequently, when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, that site can determine for billing purposes that the recipe was, first, ordered and, second,</p>	<p>Page 49 lines 26-28.</p> <p>Page 50 lines 14-17.</p>	<p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <p>...unique codes for programming (other than programming identified by program unit codes) whose use obligates users to make payments (eg., royalties and residuals);....</p>

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		delivered.		
36. The method of claim 33, wherein said processor instructions are embedded in said television signal, said method further comprising the steps of: selecting at least one datum from the group consisting of:	Column 4 lines 5-9.  Column 16 lines 25-32.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...  One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 13 lines 25-28.  Page 319 lines 23-30.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.  One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
(1) a datum that identifies processor instructions;	Column 3 lines 6-8.  Column 19 lines 46-48.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  ... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 14 line 35 to page 15 line 2.  Page 23 line 35 to page 24 line 4.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the

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				relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
(2) a datum that designates an addressed apparatus;	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  ... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 19 lines 46-48.		Page 23 line 35 to page 24 line 4.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
(3) a datum that is part of a decryption code;	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 13 lines 31-32.	The signal or signals may transmit a code or codes necessary for the decryption of the transmission.	Page 292 lines 7-11.	Receiving said message causes controller, 20, to load the enable-CC13 instructions and the enable-WSW instructions of the information segment of said message at particular RAM of

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			<p>Page 54 lines 2-6.</p> <p>Page 294 lines 28-35.</p> <p>Page 295 line 27 to page 296 line 2.</p>	<p>controller, 20, and execute said instructions as the machine language instructions of one job.</p> <p>An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art.</p> <p>Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions.</p> <p>Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,....</p> <p>... thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program....</p>
(4) a datum to be compared to a communication schedule; and	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 11 lines 38-39.	By comparing identification signals on the	Page 327 line 35 to	Computer, 73, monitors incoming



Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
		incoming programming with the programming schedule ...	page 328 line 13.	<p>programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
embedding said selected at least one datum in said television signal; and	<p>Column 19 lines 43-44.</p> <p>Column 19 lines 60-63.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p>	<p>Page 21 lines 23-24.</p> <p>Page 59 lines 29-33.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially</p>

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				<p>transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>	
storing said selected at least one datum at said storage device concurrently with said first television programming and said code.	<p>Column 11 lines 64-65.</p> <p><u>OR</u> Column 19 lines 24-25.</p> <p>Column 16 lines 25-32.</p>	<p>... instructs the recorder/player, 76 or 78, to turn on and record the programming.</p> <p>... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...</p> <p>One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods</p>	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7.</p> <p>Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 329 line 15-16.</p> <p><u>OR</u> Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 319 lines 23-30.</p>	<p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...</p> <p>One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques</p>	

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		Column 16 lines 43-47.	<p>provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.</p> <p>Subsequently, the person might play the recorded programming on TV set, 132, from 10:45 PM to 11:15 PM the same evening. This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.</p>	Page 320 lines 24-31.	<p>for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.</p> <p>Subsequently, the subscriber might play back the recorded programming and view said programming on TV monitor, 202M, from 10:45 PM to 11:15 PM the same evening. So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131 ...</p>
37. The method of claim 33, wherein said processor instructions include at least one of a code and a datum which enables communication of said processor instructions in a network, said method further comprising the steps of: selecting an instruction signal, said instruction signal including at least one from the group consisting of:	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	<p>Page 325 line 34 to page 326 line 7.</p> <p>Page 59 lines 29-33</p>	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p>	
(1) a switch control signal;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,	

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			<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p>
			<p>... <b>monitor information that identifies what programming</b> is available, ...</p>
			<p>Meter-monitor segments contain meter information and/or monitor information.</p>
(2) a timing control signal;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming</p>

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				<p>schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
(3) a locating control signal;	Column 14 lines 54-55.	If signal processor, 112, has been preprogrammed with the signal or signals ...	Page 84 lines 26-28.	<p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.</p>
	Column 14 lines 54-61.	If signal processor, 112, has been preprogrammed with the signal or signals	Page 28 lines 26-27.	<p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.</p>
		or if it has been informed of the predetermined fashion for identifying and processing the the needed signal or signals in the incoming transmission from facility, 113,	Page 49 lines 26-27.	<p>In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ...</p> <p>Receiving any given instance of please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to select particular WSW-on- CC13-at-particular-8:30 information in said received information, record said selected information at particular</p>

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		for example, where to look for the signals	<p>Page 290 lines 11-12.</p> <p>Page 290 lines 26-30.</p> <p>OR</p> <p>Page 298 lines 17-18.</p> <p>Page 298 line 34 to page 299 line 1.</p> <p>Page 290 lines 11-17.</p>	<p>memory, and execute particular receive-authorizing-info-at- appointed-time instructions. ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20, ...</p> <p>... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200,....</p> <p>Executing said 1st-stage-enable-WSW- program instructions causes controller, 20,....</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time....</p>	<p>Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20,....</p> <p>....transmits particular preprogrammed enable-next-program-on-CC13 information to</p>
	and when		<p>OR</p> <p>Page 297 lines 20-21.</p> <p>Page 290 lines 11-12, lines 21-26.</p>		
	and how,				

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			<p>Page 291 lines 21-28.</p>	<p>the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6, ...</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. ...</p>
		<p>signal processor, 112, can transfer the signal to decryptor/interruptor, 115.</p>	<p>Page 295 line 30 to page 296 line 1.</p>	<p>Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion...</p>
	<p>Column 14 lines 46-54.</p>	<p>The signal or signals necessary for the decryption of the channel that box, 114,</p>	<p>299 lines 13-18.</p>	<p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. ...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor,</p>

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		<p>passes to decryptor/interruptor, 115,</p> <p>in this case, is not located in the channel transmission.</p> <p>They may be preprogrammed into the signal processor (for example,</p> <p>in programmable random access memory controller, 20, in Fig. 1)</p> <p>or they may be transmitted in a channel other than the channel being transferred from box, 114.</p>	<p>Page 298 line 34 to page 299 line 1.</p> <p>Page 299 lines 13-17.</p> <p>Page 298 line 33 to page 299 line 1.</p> <p>Page 293 line 20.</p> <p>Page 291 lines 10-20.</p>	<p>224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, ...</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, ...</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...</p> <p>...such as, for example, the RAM of controller, 20; ...</p> <p>...said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and ... enable-WSW instructions that include particular enable-WSW-programming information, ... <b>on the frequency of said master control channel.</b> (Hereinafter said message is called the "local-</p>



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				Page 289 lines 25-27.  Page 290 lines 28-29.  Page 294 lines 28-35.	cable-enabling-message (#7).") ...  ... said "Wall Street Week" program when transmission of said program on cable 13 commences. ...  ...particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system ...  Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ...
(4) an instruct-to-contact signal that designates a remote receiver station;	Column 8 lines 58-62.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2. An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit.		Page 290 lines 26-31.    Page 291 lines 21-24.   Page 59 lines 29-31.	... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...  In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.

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			Page 402 lines 22-26.	... causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.
			Page 403 lines 7-12.	Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30. Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.
			Page 405 lines 20-29.	Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...
(5) an instruct-to-transfer signal that designates one of broadcast and cablecast programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of

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(6) an instruct-to-delay signal that designates one of broadcast and cablecast programming;	Column 11 lines 38-39.		Page 84 lines 26-28.	Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...  ... <b>monitor information that identifies what programming</b> is available, ...  Meter-monitor segments contain meter information and/or monitor information.
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
			Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what</b>

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				Page 49 lines 26-27.	programming is available, ...  Meter-monitor segments contain meter information and/or monitor information.
(7) at least one of an instruct-to-decrypt and an instruct-to-interrupt signal that designates programming and a method to one of decrypt and interrupt;	Column 13 lines 24-25.	The signal or signals instruct decrypter/interrupter, 101, to decrypt the transmission ...	Page 298 lines 10-21.	Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load- and-run-@20 instructions, to load the 1st-stage-enable-WSW-program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job.  Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.	
(8) at least one of an instruct-to-enable and an instruct-to-disable signal that designates an apparatus;	Column 20 lines 31-37.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form and instruct control means, 226, to activate printer, 221.	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...  At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...  Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-#	

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			<p>Page 476 line 34 to page 477 line 8.</p> <p>Page 477 lines 8-17.</p> <p>Page 474 lines 3-7.</p> <p>Page 473 line 29 to page 474 line 1.</p>	<p>memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p> <p>... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...</p> <p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said <b>generate-recipe-</b> ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor,</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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				200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
(9) an instruct-to-record signal that designates one of a broadcast and a cablecast program;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming ...</b>	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions ...</b></p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
	Column 19 lines 20-27.	Analyzing these identifier signals in a predetermined fashion, microcomputer, <b>205</b> , determines that "Wall Street Week" is being televised on channel X.	Page 436 line 9 to page 437 line 6.	

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
		<p>Then, in a predetermined fashion, microcomputer, 205, may</p>		<p>determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,</p>
			<p>Page 439 lines 9-15.</p>	
			<p>Page 439 lines 9-15</p>	
	<p>instruct tuner, 214, to switch box, 201, to channel X</p>		<p>Page 295 lines 6-8.</p>	
			<p>Page 445 lines 24-27.</p>	

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
			and may instruct and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 446 lines 18-23.	... ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
(10) an instruction signal that controls a media presentation;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.  Page 26 lines 4-11.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.





Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
			Page 435 lines 16-25.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ... Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.
			Page 436 line 9 to page 437 line 3.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
				<p>inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13;...</p> <p>...instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instructions to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p>
	<p>Column 19 lines 27-28.</p>	<p>... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...</p>	<p>Page 439 lines 14-15.</p> <p>Page 445 line 24 to page 446 line 1.</p>	

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
(13) an instruct-to-tune signal that designates at least one of a receiver and a frequency;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming ...</b>	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions ...</b>	
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...	
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.	
	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, <b>205</b> , determines that "Wall Street Week" is being televised on channel X.	Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they	

Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.	Language
Reference	Reference	Reference	Language
		<p>Page 435 lines 16-25.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes</p>

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	Column 19 lines 28-29.	...and tuner, <b>215</b> , to tune appropriately to "Wall Street Week."	Page 439 lines 14-15.  Page 445 line 35 to page 446 line 1.  Page 446 lines 17-21.	microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.  ... to receive the transmission of cable channel 13;...  ... and to tune monitor, 202M, in a predetermined fashion.  In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....
(14) an instruct-to-coordinate signal that designates two apparatus;	Column 4 lines 5-6.  Column 19 lines 20-29.	These techniques employ signals embedded in programs.  Analyzing these identifier signals in a predetermined fashion, microcomputer, <b>205</b> , determines that "Wall Street Week" is being televised on channel X.	Page 13 lines 25-26.  Page 436 line 9 to page 437 line 6.	The present invention employs signals embedded in programming.  Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects</i>

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				<p><i>the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i></p> <p>Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder,</p>
		Then, in a predetermined fashion, microcomputer, 205, may	Page 439 lines 9-15.	
		instruct tuner, 214, to switch box, 201, to channel X	Page 295 lines 6-8.	
		and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"	Page 445 lines 24-27.	
		and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 446 lines 18-23.	
			Page 445 line 24 to page 446 line 1.	

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		<p>and tuner, <b>215</b>, to tune appropriately to "Wall Street Week."</p> <p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, <b>203</b>, and transferred via processor, <b>204</b>, to microcomputer, <b>205</b>. This signal instructs microcomputer, <b>205</b>, to transmit the first overlay to TV set, <b>202</b>, ...</p>	<p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p> <p>Page 25 line 33 to page 26 line 2..</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-8.</p>	<p>145, to switch power on to monitor, 202M, ...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic</p>	



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		Reference	Language	Reference	Language
		Column 19 line 30.	<b>Co-ordinating Multimedia Presentations in Time</b>	See <i>generally</i> page 447 line 25 to page 457 line 10.	information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  <b>Controlling Computer-based Combined Media Operations</b>
(15) an instruct-to-compare signal that designates one of a news transmission and a computer input;	Column 18 lines 48-55.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 420 line 21 to page 421 line 7.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200. Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ... In due course, said remote news-service-A station ...	
(16) an identifier signal that causes a computer to instruct a plurality of tuners each to tune to one of a broadcast and a cablecast transmission;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming	

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				<p>schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes</p>
	Page 84 lines 26-28.			
	Page 28 lines 26-27.			
	Page 49 lines 26-27.			
	Page 436 line 9 to page 437 line 6.			
	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...</p>			
	Column 19 lines 20-25.			

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				<p>microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	
		...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	
	Column 19 lines 27-29.		Page 446 lines 17-21.	

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(17) an instruct-to-coordinate signal that designates two units of media information and one of: (1) an output time and (2) an output place;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.	
			Page 26 lines 4-11.		
		Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 451 line 3.  Page 18 lines 24-27.	

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(18) an instruct-to-generate signal that designates an output datum;	Column 19 line 60 to column 20 line 1.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	<p>presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said</p>

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		<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	Page 26 lines 4-11.	<p>information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...</p>
(19) an instruct-to-transmit signal that designates a computer output;	Column 19 line 60 to column 20 line 1.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of</p>

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					forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
		This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.	Page 26 lines 4-11.		Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...
		The viewer then sees a microcomputer generated graphic of his own stocks' performance ...			
(20) an instruct-to-overlay signal that designates a television image;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.		At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process: ...

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					to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
				Page 26 lines 4-11.	
				Page 451 line 3.	
(21) an instruct- that-if signal that designates a function to perform if a predetermined condition exists;	Column 20 lines 27-36.	Five minutes later,  a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.  This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion,		Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. Receiving said message causes controller, 20, to load and execute said check-for- entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause an instance of ...
		instruct tuner, 223, to tune cable converter box, 222, to the appropriate		Page 476 line 34 to page 477 line 8.	(An alternate method for inputting said second message to the microcomputers, 205,





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(23)	an instruct-to-transmit signal that designates a computer peripheral device;	Column 19 lines 63-66.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	Page 26 lines 1-8.  Page 37 line 26 to page 38 line 8.	means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
(24)	a code signal	Column 12 lines 35-41.	The cable head end facility also contains	Page 354 lines 18-24.	Fig. 6 shows signal strippers, 81, 85, and 89,

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that designates a datum to one of remove and embed, and			signal strippers, <b>81</b> , <b>85</b> , and <b>89</b> , of which models exist well known in the art, that controller/computer, <b>73</b> , can instruct to remove signals from programming as required, and signal generators, <b>82</b> , <b>86</b> , and <b>90</b> , also well known in the art, that controller/ computer, <b>73</b> , can instruct to add signals to programming as required.		of which models exist well known in the art, that computer, <b>73</b> , can cause to remove SPAM and signal generators, <b>82</b> , <b>86</b> , and <b>90</b> , also well known in the art, that computer, <b>73</b> , can cause to embed SPAM information as required.
(25) a signal addressed to a receiver station apparatus;	Column 18 lines 1-7.	Decoder, <b>203</b> , transfers all received signals to processor or monitor, <b>204</b> , which identifies the signals as addressed to microcomputer, <b>205</b> , and transfers them to microcomputer, <b>205</b> . Microcomputer, <b>205</b> , uses such received signals, in a predetermined fashion, to govern the operation of furnace, <b>206</b> , air conditioning system, <b>207</b> , and window opening and closing means, <b>208</b> .	Decoder, <b>203</b> , transfers all received signals to processor or monitor, <b>204</b> , which identifies the signals as addressed to microcomputer, <b>205</b> , and transfers them to microcomputer, <b>205</b> . Microcomputer, <b>205</b> , uses such received signals, in a predetermined fashion, to govern the operation of furnace, <b>206</b> , air conditioning system, <b>207</b> , and window opening and closing means, <b>208</b> .	Page 400 lines 3-4.  Page 35 lines 11-15.	Receiving said Weather-Bulletin-125 SPAM message causes decoder, <b>203</b> , to ...  ... the overall video transmission and passes said information to a digital detector, <b>34</b> , which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, <b>39</b> , which...
				Page 35 lines 24-27.	... said audio information that is of interest. The digital detector, <b>37</b> , detects signal information embedded in said audio information and inputs detected signal information to controller, <b>39</b> .
				Page 35 lines 28-31.	... separately defined transmission to a digital detector, <b>38</b> , which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, <b>39</b> .
				Page 400 lines 6-18. See Fig. 3A regarding the composition of controller <b>39</b> .	Automatically, control processor, <b>39J</b> , executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, <b>39J</b> , to ... to input the information of the information segment of said message to the CPU of microcomputer, <b>205</b> ; ... and to cause said CPU to execute the information so inputted as a machine language job.

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	Reference	Language	Reference	Language
			<p>Page 37 line 28 to page 38 line 8.</p> <p>Page 400 lines 19-22.</p> <p>Page 401 lines 14-17.</p>	<p>Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>So executing said information causes microcomputer, 205, to reducing the power usage of said air conditioning system, 207, causes any open windows at said station to be closed.</p> <p>In this fashion, SPAM messages can control and regulate the operation of individual subscriber station controlled apparatus (the thermostat control of furnace, 206, for example, could be similarly controlled) ...</p>
(26) an instruct-to-store signal that designates at least a portion of a program to be at least one of broadcast and cablecast;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>

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				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
				Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
				Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
		Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.		
(27)	an	Column 11 lines 38-39.	By comparing <b>identification signals on</b>	Page 327 line 35 to	Computer, 73, monitors incoming

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instruct-to-transmit signal that designates at least a portion of a program to be at least one of broadcast and cablecast;			<b>the incoming programming ...</b>	page 328 line 13.
				Page 84 lines 26-28.
				Page 28 lines 26-27.
				Page 49 lines 26-27.
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...  ... <b>monitor information that identifies what programming</b> is available, ...  Meter-monitor segments contain meter information and/or monitor information.  Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor	

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				information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....  ... monitor information that identifies what programming is available, ...  Meter-monitor segments contain meter information and/or monitor information.
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
embedding said selected instruction signal in said television signal; and	Column 19 lines 43-44.  Column 19 lines 60-63.	... instruction signals embedded in the "Wall Street Week" programming transmission.  At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 21 lines 23-24.  Page 59 lines 29-33.  Page 25 line 34 to page 26 line 1.  Page 90 lines 4-7. Applicants teach this as the composition of the	... instruction signals embedded in the "Wall Street Week" programming transmission.  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.  The second message is of the information associated with the second combining synch command. Said second command has a "00"

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			instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	header, an execution segment, and a meter-monitor ...
storing said selected instruction signal at said storage device concurrently with said television programming and said processor instructions.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 19 lines 24-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...	Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...
			Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
<u>First Embodiment:</u>				
38. A method of embedding processor instructions to control a presentation comprising the steps of:	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
receiving a program that contains video information, said video	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a <b>studio</b>	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market



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information including at least three video images to be outputted at a subscriber station in a predetermined sequence;	Column 19 lines 45-46.	<b>generated graphic is pictured.</b>		over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a <b>studio generated</b> graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 line 53-56.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...  Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 451 lines 6-7.  Page 25 lines 26-33.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...  During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 56-59.	The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	Page 451 lines 25-32.	For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.
	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the <b>studio generated graphic</b> .	Page 451 line 3.  Page 26 lines 8-11.	And the Fig. 1C combining is displayed.  TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the <b>studio generated graphic</b> .
receiving	Column 19 lines 60-62.	At this point, an instruction signal is	Page 59 lines 29-33.	A SPAM message is the modality whereby the

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said processor instructions and		generated in the television studio originating the programming ...	<p>original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is <b>generated</b> at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p>	
	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... <b>upon command.</b>	<p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 23 line 35 to page 24 line 16.</p>	
			<p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a</p>	

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at least one control instruction,				Page 44 lines 14-17.	"program instruction set.")  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
				Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
	at least one control instruction,	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 25 line 33 to page 26 line 2..	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
				Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means

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Reference	Reference	Reference	Language
said processor instructions capable of instructing			<p>of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>
	Column 19 lines 48-53.	<p>These signals instruct microcomputer, 205, to</p> <p>Page 26 lines 4-8.</p> <p>Page 23 line 35 to page 24 line 16.</p>	<p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p>
		<p>generate several graphic video overlays, ...</p> <p>Page 451 lines 7-11.</p>	<p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>
	<p>and to transmit these overlays to TV set, 202,</p> <p>Page 26 lines 4-8.</p>		<p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>

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a subscriber station apparatus to at least one of process and output subscriber specific information pertaining to said program,	Column 17 lines 47-53.	<p><b>upon command.</b></p> <p>FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.</p>	<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p>Page 390 lines 30-35.</p> <p>Page 396 lines 8-10.</p>	<p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchronizing command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchronizing command ...</p> <p>Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.</p> <p>Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.</p>
said at least one control instruction capable of causing said subscriber station apparatus to operate under control of said processor instructions;	Column 19 lines 60 to page 20 line 2.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio</p>	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by</p>

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			generated graphic.		means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
				Page 26 lines 4-11.	
				Page 451 line 3.	
commencing communication of said program to		Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
a storage device;		Column 19 lines 20-27.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which

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		<p>Then, in a predetermined fashion, microcomputer, <b>205</b>, may</p> <p>instruct tuner, <b>214</b>, to switch box, <b>201</b>, to channel X</p> <p>and may instruct and may instruct control system, <b>220</b>, to turn video recorder, <b>217</b>, on and record "Wall Street Week," ...</p>	<p><i>second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</i></p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,</p> <p>...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>	<p>second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,</p> <p>...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>
embedding said	Column 4 lines 5-6.	These techniques employ signals	Page 13 lines 25-26.	The present invention employs signals

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processor instructions and said at least one control instruction in a signal containing said program	Column 9 lines 31-33.	<p>embedded in programs.</p> <p>A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.</p>	<p>Page 22 lines 1-6.</p> <p>Page 14 line 35 to page 15 line 2.</p> <p>Page 36 lines 2-3.</p> <p>Page 36 lines 19-20.</p> <p>Page 21 lines 23-24.</p> <p>Page 23 line 35 to page 24 line 16.</p>	<p>embedded in programming.</p> <p>... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... processes signal information embedded in an inputted radio frequency.</p> <p>... processes signal information embedded in a frequency other than a television or radio frequency.</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named</p>
while said signal and said program are being communicated; and	<p>Column 19 lines 43-44.</p> <p>Column 19 lines 46-53.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... <b>upon command.</b></p>		



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				FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
			Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 59-60.	Then the host says, "And here is what your	Page 25 lines 33-34.	Then the host says, "And here is what your

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	Column 19 lines 60-63.	portfolio did." At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.  Page 25 line 34 to page 26 line 1.  Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	portfolio did." A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
storing said signal containing said program, said embedded processor instructions, and said embedded at least one control instruction in said storage device.	Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.  Page 446 lines 18-23.	... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...  ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 16 lines 25-32.	One particular advantage of these methods ... is that, by locating the ... signals in the audio and/or video and/or other parts of the programming that are conventionally	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the

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		recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.		programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
<b><u>Second Embodiment:</u></b>				
38. A method of embedding processor instructions to control a presentation comprising the steps of:	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
receiving a program that contains video information, said video information including at least three video images to be outputted at a subscriber station in a predetermined sequence;	Column 19 line 53-56.  Column 19 lines 45-46.  Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a <b>studio generated</b> graphic is pictured.  When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...  Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.  Page 451 lines 6-7.  Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a <b>studio generated</b> graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.  When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...  During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 56-59.	The host then says, "Here is what the	Page 451 lines 25-32.	For example, the Fig. 1C display of user

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			broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.		specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.
		Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the <b>studio generated graphic</b> .	Page 451 line 3. Page 26 lines 8-11.	And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the <b>studio generated graphic</b> .
receiving		Column 19 lines 60-62.	At this point, an instruction signal is <b>generated</b> in the television studio originating the programming ...	Page 59 lines 29-33.  Page 25 lines 34-35.  Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is <b>generated</b> at said program originating studio, ...  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
said processor instructions and		Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening,	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program

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	several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.				originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
				Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
				Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
	Column 19 lines 60-66.	At this point, an instruction signal is		Page 25 line 33 to page	Then the host says, "And here is what your

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<p>at least one control instruction,</p>	<p>Column 11 lines 38-39.</p>	<p>generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to <b>transmit</b> the first overlay to TV set, 202, ...</p>	<p>26 line 2..</p> <p>portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and <b>transmit</b> the combined information to TV monitor, 202M.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62,</p>
<p>at least one control instruction,</p>	<p>Column 11 lines 38-39.</p>	<p>By comparing <b>identification signals on the incoming programming ...</b></p>	<p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-8.</p> <p>Page 327 line 35 to page 328 line 13.</p>

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				and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
said processor instructions capable of	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 327 lines 24-31.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.
instructing	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages

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a subscriber station apparatus to at least one of	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 324 lines 18-21.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.</p>
process and output subscriber specific information pertaining to said program,	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.
said at least one control instruction capable of	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming</p>



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causing said subscriber station apparatus to operate under control of said processor instructions;	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 84 lines 26-28.	schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in

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	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 329 line 2-22.</p>	<p>television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular programmed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p> <p>... each program unit, ... the station should transmit the unit, ...</p> <p>... transmit the programming of each received</p>
	Column 11 lines 30-31.	... transmit each program unit to cable field distribution system, 93.	<p>Page 326 line 35 to page 327 line 2.</p> <p>Page 328 line 13.</p>	

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	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	program unit. Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ....
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
			Page 90 lines 4-7.	The second message is of the information associated with the second combining synch command. Said second command has a "00"

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commencing communication of said program to a storage device;	Column 19 lines 62-63  Column 10 lines 30-39.  Column 10 lines 40-43.	... and [the instruction signal] is transmitted in the programming transmission.  The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.  All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 25 line 34 to page 26 line 1.  Page 324 lines 23-31.        Page 324 lines 31-35.	header, an execution segment, and a meter-monitor ...  ... an instruction signal is ... embedded in the programming transmission, and transmitted.  The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.  Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
embedding said processor instructions and said at least one control instruction in a signal containing said program	Column 4 lines 5-6.  Column 9 lines 31-33.	These techniques employ signals embedded in programs.  A digital signal is embedded by conventional generating and encoding	Page 13 lines 25-26.    Page 22 lines 1-6.	The present invention employs signals embedded in programming.  ... a first series of control instructions is generated, embedded sequentially on said line

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		means and transmitted in a television, radio or other transmission.		or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.	
		... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	
		... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 36 lines 2-3.	... processes signal information embedded in an inputted radio frequency.	
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 36 lines 19-20.	... processes signal information embedded in a frequency other than a television or radio frequency.	
while said signal and said program are being communicated; and	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.	
			Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a	

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			Page 44 lines 14-17:	"program instruction set.")  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially

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			<p>transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>	
storing said signal containing said program, said embedded processor instructions, and said embedded at least one control instruction in said storage device.	<p>Column 11 lines 64-65.</p> <p>Column 19 lines 43-44.</p> <p>Column 16 lines 25-32.</p>	<p>... instructs the recorder/player, 76 or 78, to turn on and record the programming.</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>One particular advantage of these methods ... is that, by locating the ... signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.</p>	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and page 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 329 line 15-16.</p> <p>Page 21 lines 23-24.</p> <p>Page 319 lines 23-30.</p>	<p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.</p>

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<b><u>Third Embodiment:</u></b>				
38. A method of embedding processor instructions to control a presentation comprising the steps of:	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
receiving a program that contains video information, said video information including at least three video images to be outputted at a subscriber station in a predetermined sequence;	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a <b>studio generated</b> graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a <b>studio generated</b> graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 45-46.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...	Page 451 lines 6-7.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 56-59.	The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	Page 451 lines 25-32.	For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the



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		Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the <b>studio generated graphic</b> .	Page 451 line 3. Page 26 lines 8-11.	so-called "NASDAQ" index. And the Fig. 1C combining is displayed. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the <b>studio generated graphic</b> .
receiving		Column 19 lines 60-62.	At this point, an instruction signal is <b>generated</b> in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
				Page 25 lines 34-35.	At this point, an instruction signal is <b>generated</b> at said program originating studio, ...
				Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
said processor instructions and		Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... <b>upon command</b> .	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs)

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	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, <b>203</b> , and transferred via processor, <b>204</b> , to microcomputer, <b>205</b> . This signal instructs microcomputer, <b>205</b> , to transmit the first overlay to TV set, <b>202</b> , ...	Page 25 line 33 to page 26 line 2..	<p>and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes a subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, <b>203</b>; transferred to microcomputer, <b>205</b>; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47,</p>
			Page 44 lines 14-17.	
			Page 26 lines 20-28.	
			Page 37 line 26 to	

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<p>at least one control instruction,</p>	<p>Column 11 lines 38-39.</p>	<p>By comparing identification signals on the incoming programming ...</p>	<p>receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when</p>
		<p>page 38 line 8.</p> <p>Page 26 lines 4-8.</p> <p>Page 327 line 35 to page 328 line 13.</p>	

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said processor instructions capable of instructing			Page 84 lines 26-28.	and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, <b>203</b> , and transferred via processor, <b>204</b> , to microcomputer, <b>205</b> . This signal instructs microcomputer, <b>205</b> , to transmit the first overlay to TV set, <b>202</b> , ...	Page 25 line 33 to page 26 line 2..	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, <b>203</b> ; transferred to microcomputer, <b>205</b> ; and executed ...
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred;

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	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to	Page 26 lines 4-8.  Page 23 line 35 to page 24 line 16.	<p>and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p>
	generate several graphic video overlays, ...		Page 451 lines 7-11.	
	and to transmit these overlays to TV set, 202,	upon command.	Page 26 lines 4-8.	
			Page 44 lines 14-17.	

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a subscriber station apparatus to at least one of process and output subscriber specific information pertaining to said program,	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 26 lines 20-28.  Page 390 lines 30-35.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...  Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.  Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.	
said at least one control instruction capable of	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming ...</b>	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	

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				<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p>	
	<p>Column 11 lines 38-43.</p>	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>				

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causing said subscriber station apparatus to operate under control of said processor instructions;	Column 12 lines 45-46.	Beyond channel combining system and multiplexer, <b>92</b> , amplifier, <b>94</b> , transmits programming ...	Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, <b>205</b> , determines that "Wall Street Week" is being televised on channel X.	Page 337 lines 3-10.	In field distribution system, <b>93</b> , amplifier, <b>94</b> , inputs ... all programming transmitted by the cable television system head end station...
		Then, in a predetermined fashion, microcomputer, <b>205</b> , may	Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, <b>203</b> , ... to input ... the information segment of said message to the CPU of microcomputer, <b>205</b> , ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, <b>205</b> , contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, <b>205</b> , compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance. Determining a match causes microcomputer, <b>205</b> , automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, <b>20</b> . Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, <b>20</b> , in a predetermined fashion, to prepare particular apparatus ...
			Page 439 lines 9-15.	...to cause selected apparatus of said



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		<p>instruct tuner, 214, to switch box, 201, to channel X</p> <p>and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"</p> <p>and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on</p> <p>and tuner, 215, to tune appropriately to "Wall Street Week."</p>	<p>station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>...instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>...and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205,</p>	<p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p> <p>Page 23 line 35 to page 24 line 16.</p>
	Column 19 lines 46-53.	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.</p>		

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	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203,	<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p>Page 25 line 33 to page 26 line 2..</p>	<p>evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to</p>

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		and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 37 line 26 to page 38 line 8.	microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
commencing communication of said program to a storage device;	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and

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embedding said processor instructions and said at least one control instruction in a signal containing said program	Column 10 lines 40-43.	<p>video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programing input means, 62, can receive programing transmissions.</p> <p>All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...</p>	<p>59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p> <p>Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...</p>	
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	Page 22 lines 1-6.	... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.
			Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
			Page 36 lines 2-3.	... processes signal information embedded in an inputted radio frequency.
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming	Page 36 lines 19-20.	... processes signal information embedded in a frequency other than a television or radio frequency.
			Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.

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while said signal and said program are being communicated; and	Column 19 lines 46-53.	transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... <b>upon command.</b>	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
			A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
			(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing

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	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	loading and running information for a particular combining.)  During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
storing said signal containing said	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...

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program, said embedded processor instructions, and said embedded at least one control instruction in said storage device.		Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
		Column 16 lines 25-32.	One particular advantage of these methods ... is that, by locating the ... signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
39. The method of claim 38, wherein additional program material is to be at least one of processed and outputted at said subscriber station to at least one of complete and supplement said program, said method further comprising the step of:		Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
		Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 25 line 33 to page 26 line 2..	Then the host says, "And here is what your signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
				Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said

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				information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	Column 19 lines 48-53.		Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
	These signals instruct microcomputer, 205, to		Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
	generate several graphic video overlays, ...		Page 451 lines 7-11.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.



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		and to transmit these overlays to TV set, 202,	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
		<b>upon command.</b>	Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...
	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
storing a control signal,	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed

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<p>said control signal being capable of causing said subscriber station to at least one of (i) query a remote station for said additional program material,</p>	<p>Column 19 lines 17-23.</p>	<p>... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW</p>

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	Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	<p>Page 439 lines 14-15.</p> <p>Page 437 lines 1-6.</p> <p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p>	<p>information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p>

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and (ii) receive said additional program material in at least one of a broadcast and a cablecast transmission.	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	Page 439 lines 9-15.	...
			Page 445 lines 24-27.	... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....
			Page 446 lines 18-23.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
			Page 451 lines 6-7.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...
			Page 23 line 35 to page 24 line 4.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 24 lines 5-6.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
			Page 451 lines 7-9.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...

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40. The method of claim 38, wherein said processor instructions direct said subscriber station to generate at least one video overlay that is to be coordinated with said video information in said program, said method further comprising the step of:	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
				Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
				Page 451 line 3.	And the Fig. 1C combining is displayed.
storing a control signal in conjunction with said	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic	Page 26 lines 4-10.	

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program and said processor instructions, said control signal capable of causing said subscriber station to output at a video display a combined video image of (a) at least a portion of said program and (b) said video overlay generated by said at least one processor.			for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...		information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
41. The method of claim 38, further comprising the steps of: receiving at least one additional processor instruction, said at least one additional processor instruction including at least one of the group consisting of:	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.		Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...		Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS

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				Page 59 lines 29-33	apparatus of said intermediate transmission station;.... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
(1) an instruction which is capable of enabling said subscriber station to generate output information content to be associated with said program;	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.		Page 26 lines 1-2.  Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
				Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the

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(2) an instruction which is capable of enabling said subscriber station to generate output to be associated with at least one of					received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
		Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3.  Page 26 lines 1-2.  Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
				Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and



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		Reference	Language	Reference	Language
a product and  a service promoted in said presentation;	Column 20 line 21.  Column 19 lines 28-29.	... a printed copy ...  ...and tuner, 215, to tune appropriately to "Wall Street Week."	transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.  ... your own printed copy ...  ... and to tune monitor, 202M, in a predetermined fashion.  In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....	Page 451 line 3.  Page 471 line 8.  Page 445 line 35 to page 446 line 1.  Page 446 lines 17-21.	
(3) an instruction which is capable of enabling said subscriber station to display, in said presentation, at least one of a combined	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and	Page 26 lines 1-2.  Page 37 line 26 to page 38 line 8.	

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<p>and a sequential output of mass medium programming and</p> <p>at least one subscriber station specific datum;</p>	<p>Column 19 lines 59-60.</p> <p>Column 19 line 67 to column 20 line 1.</p>	<p>Then the host says, "And here is what your portfolio did."</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	<p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p> <p>Page 25 lines 33-34.</p> <p>Page 26 lines 8-11.</p>	<p>process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>Then the host says, "And here is what your portfolio did."</p> <p>TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...</p>
<p>(4) an instruction which is capable of enabling said subscriber station to respond to</p>	<p>Column 20 lines 27-32.</p>	<p>Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...</p>	<p>Page 471 line 26 to page 472 line 17.</p>	<p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
a subscriber reaction inputted by at least one of at least one processor and a computer;	Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...	Page 471 lines 6-25.	<p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.</p> <p>Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.</p>
(5) an instruction which is capable of enabling said subscriber station	Column 13 lines 17-20.	The signals that enable the decrypter/interrupter, 101, to decrypt and/or transfer programming uninterrupted may be embedded in the programming or may be elsewhere.	Page 291 lines 9-24	<p>In the interval between said commencing time and said 8:30 PM time, said head end is caused, ... to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, ... on the frequency of said master control channel. (Hereinafter said</p>

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Reference	Language	Reference
		message is called the "local-cable-enabling-message (#7)."
		In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...
		In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.
		particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system
		Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.
		Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, ...
		And for example, determining that a local station is not preprogrammed properly and/or that decryption, ... apparatus are not functioning correctly may cause apparatus of said station ... interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. And for example the transmitted
to communicate to a remote station a query for information to enable a display of said presentation;	Column 15 lines 20-25.	Page 289 lines 22-27
		Page 290 lines 28-29
		Page 298 lines 17-21.
		Page 299 lines 19-22.
		Page 311 line 33 to page 312 line 8.
	In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions	

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	Reference	Language	Reference	Language
			<p>programming ...</p> <p>At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion....</p> <p>... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly ...</p> <p>At each station where a ... a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly ...</p>	
(6) an instruction which is capable of	Column 20 lines 27-32.	<p>Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...</p>	<p>Page 293 lines 32-35.</p> <p>Page 301 lines 6-9.</p> <p>Page 308 line 35 to page 309 line 3.</p>	
enabling said subscriber station to communicate to a remote station an	Column 20 lines 54-56.	<p>... when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, ...</p>	<p>Page 471 line 26 to page 472 line 17.</p> <p>Page 28 lines 25-35.</p>	<p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>[Signal processor 200 in Fig.7] has capacity, at each station, for receiving monitor information that identifies what programming</p>

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	Reference	Language	Reference	Language
order for	Column 20 lines 42-45.	Then, as part of the predetermined operation, signal processor, 200, conveys to its data recorder, 16, information that the 567 order was placed by the viewer ...	Page 472 lines 23-27.	is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
at least one of a product and	Column 20 line 21.	... a printed copy ...	Page 471 line 8.	... Executing said instructions also causes control, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.
a service at least one of	Column 20 lines 33-36.	... instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...	Page 476 line 34 to page 477 line 8.	... your own printed copy ...  (An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.
			Page 477 lines 8-17.	In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said

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(i) promoted in said video information and					second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission....
	Column 20 line 11.	<b>Coordinating Print and Video</b>		See generally page 469 line 1 to page 516 line 13. (Page 469 lines 1-2 quoted herein.)	<b>Automating U. R. Stations ... Examples #9 and # 10 Continued</b> <b>Coordinating Computers, Television, and Print</b>
	Column 20 lines 16-23.	Suppose a viewer watches a television program on cooking techniques that is received on TV set, 202, via box, 201. Julia Childs's "The French Chef" is one such program. Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input."		Page 470 lines 1-3 and  Page 470 lines 9-13.	...transmits the programming transmission of a particular conventional television program on cooking techniques that is called "Exotic Meals of India."  At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6), in the fashions described above, apparatus is caused to receive the particular transmission of said program that is retransmitted by the intermediate station of Fig. 6; ...
				Page 470 lines 19-21.	... to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M.
				Page 471 lines 6-13.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#".
(ii) based on a viewer	Column 20 lines 19-26.	Halfway through the program, the host		Page 471 lines 6-25.	Halfway through the program the host says,

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<p>reaction;</p> <p>(7) an instruction which is capable of enabling said subscriber station to process a digital television signal; and</p>	<p>says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...</p>		<p>"If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.</p> <p>Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.</p>
<p>(7) an instruction which is capable of enabling said subscriber station to process a digital television signal; and</p>	<p>Column 19 lines 63-66.</p>	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,</p>	<p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques</p>
		<p>Page 26 lines 1-8.</p>	
		<p>Page 37 line 26 to page 38 line 8.</p>	



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(8) an instruction which is capable of enabling said subscriber station	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.			well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
			Page 435 lines 16-18.  Page 267 lines 20-28 from example #5.		In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...  All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)  Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...  Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects

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to process said	Column 19 lines 60-66.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...</p>	<p>Page 439 lines 14-15.</p> <p>Page 25 line 33 to page 26 line 2..</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p><i>the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which</p>	<p><i>the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which</p>

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processor instructions;	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to	Page 26 lines 4-8.  Page 23 line 35 to page 24 line 16.	<p>said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function</p>
		generate several graphic video overlays, ...	Page 451 lines 7-11.	
		and to transmit these overlays to TV set, 202,	Page 26 lines 4-8.	
		upon command.	Page 44 lines 14-17.	

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					or functions. (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...
embedding said at least one additional processor instruction, said step of embedding translating said at least one additional processor instruction to at least one control signal, said at least one control signal for directing at least one processor; and	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 26 lines 20-28.  Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...	
	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	
storing said at least one	Column 4 lines 5-9.	These techniques employ signals	Page 13 lines 25-28.	The present invention employs signals	

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control signal in conjunction with said program.	<p>Column 3 lines 6-8.</p>	<p>embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>	<p>Page 14 line 35 to page 15 line 2.</p>	<p>embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>	
<p>Column 11 lines 57-65.</p>	<p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.</p>	<p>Page 329 line 2-22.</p>	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular programmed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p>		

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42. The method of claim 38, further having at least one step from the group consisting of: embedding said processor instructions in a portion of a television signal which is unviewable on a normally tuned television set;	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...

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		Column 4 lines 18-22.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.	Page 49 lines 26-27.  Page 14 lines 6-11.	Meter-monitor segments contain meter information and/or monitor information.  In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.
embedding code in		Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
said program		Column 2 lines 65-66.  Column 4 lines 18-22.	Examples of signal units are a unique code identifying a programming unit, ...  In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.	Page 14 lines 27-29.  Page 14 lines 6-11.	Examples of signal units are a unique code identifying a programming unit, ...  In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.
that enables at least one of a computer and a controller		Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 435 lines 16-18.  Page 267 lines 20-28 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...  All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)

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to control said presentation of said program in accordance with said processor instructions;	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 436 line 9 to page 437 line 3.	<p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13, ...</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and</p>



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			<p>... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its</p> <p>...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,</p> <p>...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>... instructions causes controller, 20, to switch</p>
	<p>Then, in a predetermined fashion, microcomputer, 205, may</p>	<p>Page 439 lines 9-15.</p>	
	<p>instruct tuner, 214, to switch box, 201, to channel X</p>	<p>Page 295 lines 6-8.</p>	
	<p>and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"</p>	<p>Page 445 lines 24-27.</p>	
		<p>Page 446 lines 18-23.</p>	

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			and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 445 line 24 to page 446 line 1.	power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ... ... and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
			and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 35 to page 446 line 1. Page 446 lines 17-21.	
communicating a program unit identification code and storing said program unit identification code at a storage location associated with said program; and	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78, to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming	

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communicating to and storing at a storage location associated with said program information	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming. ... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 2 lines 65-66.	Examples of signal units are a unique code identifying a programming unit, ...	Page 14 lines 27-29.	Examples of signal units are a unique code identifying a programming unit, ...
	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.

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to evidence at least one of an availability, use, and usage of said program at said subscriber station.	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 2 lines 65-66.	Examples of signal units are a unique code identifying a programming unit, ...	Page 14 lines 27-29.	Examples of signal units are a unique code identifying a programming unit, ...
	Column 18 lines 29-41.	FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service.	Page 411 lines 10-11.	In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...
			Page 88 lines 19-22.	... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.
		TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.
			Page 414 lines 13-27.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
			Page 15 lines 16-22.	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections.

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				<p>The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.</p> <p>Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate</p>
			<p>Page 36 lines 32-33.</p> <p>Page 38 lines 11-14.</p> <p>Page 411 lines 10-15.</p> <p>Page 418 line 23 to page 419 line 15.</p> <p>Page 411 line 28 to page 412 line 2.</p>	
		<p>The processors, 204 and 210, transfer this information to signal processor, 200,</p> <p>for recording and subsequent transmission to a remote data collection site.</p>		

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		<p>Page 173 line 30 to page 174 line 23 from example #3.</p> <p>Page 419 lines 4-15.</p> <p>Page 28 lines 25-35.</p> <p>Page 397 lines 17-20.</p>	<p>a first signal record, ... that is based on the "program unit identification code" information of said particular television program in ...</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1<sup>st</sup> monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p> <p>Each subscriber station signal processor, 200,</p>

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					operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...
43. A method of processing signals to control a mass medium programming presentation comprising the steps of:	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....  ... monitor information that identifies what programming is available, ...  Meter-monitor segments contain meter information and/or monitor information.	
receiving a signal containing at least one of data and	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 84 lines 26-28.  Page 28 lines 26-27.  Page 49 lines 26-27.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed	

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			<p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 14 line 35 to page 15 line 2.</p> <p>Page 25 lines 26-33.</p> <p>Page 445 line 24 to page 446 line 1.</p>	<p>apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is <b>generated</b> at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio <b>generated</b> graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes</p>
mass medium programming to be	<p>Column 3 lines 6-8.</p> <p>Column 19 line 53-56.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio <b>generated</b> graphic is pictured.</p>		
outputted in said mass medium programming presentation and	Column 19 lines 27-29.	<p>...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."</p>		



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	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, <b>203</b> , and transferred via processor, <b>204</b> , to microcomputer, <b>205</b> . This signal instructs microcomputer, <b>205</b> , to transmit the first overlay to TV set, <b>202</b> , ...	<p>Page 446 lines 17-21.</p> <p>decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>Page 25 line 33 to page 26 line 2..</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the</p> <p>Page 26 lines 4-8.</p>	

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communicating said signal to a storage device;	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programing transmission.	Page 25 line 34 to page 26 line 1.	received composite video information and transmit the combined information to TV monitor, 202M.  ... an instruction signal is ... embedded in the programing transmission, and transmitted.	
	Column 10 lines 30-39.	The facility receives programing from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programing input means, 62, can receive programing transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.	
	Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...	
receiving processor instructions which are capable of	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programing ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.	
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...	
			Page 90 lines 4-7.	The second message is of the information	

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controlling a receiver station to present first information contained in said signal at an output device and to	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 23 line 35 to page 24 line 16.	associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a  (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a
			Page 44 lines 14-17.	
			Page 26 lines 20-28.	

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<p>process a subscriber reaction to second information contained in said signal;</p>	<p>Column 19 lines 60-66.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...</p>	<p>combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and</p>
			<p>Page 25 line 33 to page 26 line 2..</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-8.</p>

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communicating said processor instructions to said storage device;	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	transmit the combined information to TV monitor, 202M. ... an instruction signal is ... embedded in the programming transmission, and transmitted.
	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
	Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
receiving at least one first instruction signal which is effective at	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7.	The second message is of the information associated with the second combining synch

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	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 327 line 35 to page 328 line 13.	command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.  Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.  By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...  ... <b>monitor information that identifies what programming</b> is available, ...  Meter-monitor segments contain meter information and/or monitor information.
one of a broadcast and a cablecast transmitter	Column 10 lines 15-20.	The signal processing apparatus outlined in <b>FIGS. 1, A, 2B, and 2C</b> , and their variants	Page 84 lines 26-28.  Page 28 lines 26-27.  Page 49 lines 26-27.  Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants

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station	as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
to communicate said signal and said processor instructions to a transmitter;	Column 11 lines 38-43.  By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....  ... monitor information that identifies what programming is available, ...

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	Column 11 lines 50-57.	... if controller/computer, 73, determines that programing incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 49 lines 26-27.  Page 328 line 22 to page 329 line 1.	Meter-monitor segments contain meter information and/or monitor information.  For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular programmed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
communicating said at least one first instruction signal to said storage device; and	Column 19 lines 62-63  Column 10 lines 30-39.	... and [the instruction signal] is transmitted in the programing transmission.  The facility receives programing from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programing input means, 62, can receive programing transmissions.	Page 25 line 34 to page 26 line 1.  Page 324 lines 23-31.	... an instruction signal is ... embedded in the programming transmission, and transmitted.  The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.



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	Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
storing said at least one first instruction signal and said processor instructions at said storage device in association with said at least one of said data and said mass medium programming.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming

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	<p>Column 19 lines 43-44.</p> <p>Column 19 lines 46-53.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.</p>	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 21 lines 23-24.</p> <p>Page 23 line 35 to page 24 line 16.</p> <p>Page 44 lines 14-17.</p>	<p>transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p>

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	Column 19 lines 60-66.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...</p>	<p>Page 26 lines 20-28.</p> <p>Page 25 line 33 to page 26 line 2..</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-8.</p>	<p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at</p>

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	<p>Column 3 lines 6-8.</p> <p>Column 19 line 53-56.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.</p>	<p>Page 14 line 35 to page 15 line 2.</p> <p>Page 25 lines 26-33.</p>	<p>the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.</p>
<p>44. The method of claim 43, wherein said mass medium programming comprises one of video, and audio, said method further comprising at least one step from the group consisting of:</p> <p>embedding said at least one first instruction signal in said signal;</p>	<p>Column 19 line 53-56.</p> <p>Column 4 lines 5-9.</p>	<p>Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.</p> <p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. ...</p>	<p>Page 25 lines 26-33.</p> <p>Page 13 lines 25-28.</p>	<p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.</p> <p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.</p>

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	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
embedding a code in said mass medium programming that enables a computer to output information to supplement one of said data and said mass medium programming in accordance with said at least one first instruction signal;	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original

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			transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...	
			... <b>monitor information that identifies what programming</b> is available, ...	
			Meter-monitor segments contain meter information and/or monitor information.	
	Column 2 lines 63-66.	(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or <b>information message unit</b> . Examples of signal units are a unique code identifying a programming unit, or a ...	Page 28 lines 26-27.	
	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 49 lines 26-27.	
			Page 14 lines 27-29.	
			Page 435 lines 16-18.	
			Page 248 lines 22-26 from example #5.	
			Page 250 lines 13-16 from example #5.	
			Page 252 lines 15-35 from example #5.	
				Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to

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			<p>Page 267 lines 20-28 from example #5.</p>	<p>microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "<b>program unit identification code</b>" and subject matter information of said first command and the <b>channel mark of cable channel 13</b> ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>
communicating a program unit identification code to said storage device	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73,</p>

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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... monitor information that identifies what</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	



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and storing said program unit identification code at a storage location associated with said mass medium programming presentation;		Column 2 lines 63-66.	(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or <b>information message unit</b> . Examples of signal units are a unique code identifying a programming unit, or a ... ... instructs the recorder/player, <b>76 or 78</b> , to turn on and record the programming.	Page 49 lines 26-27.  Page 14 lines 27-29.	<b>programming</b> is available, ... Meter-monitor segments contain meter information and/or monitor information. (The term "signal unit" hereinafter means <b>one complete signal instruction</b> or <b>information message unit</b> . Examples of signal units are a unique code identifying a programming unit, or a ... ... to cause said selected recorder, <b>76 or 78</b> , to turn on and record programming, ...
		Column 11 lines 64-65.		Page 329 line 15-16.	
		Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
communicating to and storing at said storage device information		Column 11 lines 57-64.	Similarly, if controller/computer, <b>73</b> , determines that incoming programming should be recorded for delayed transmission, controller/ computer, <b>73</b> , selects a video recorder/player, <b>76 or 78</b> , in a predetermined fashion, to record the incoming programming, instructs matrix switch, <b>75</b> , to transfer the programming to the designated recorder/player, <b>76 or 78</b> , ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, <b>73</b> , to cause the recording of said programming. For example, computer, <b>73</b> , receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, <b>67</b> . Receiving said message causes computer, <b>73</b> ,

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	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... monitor information that identifies what</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	

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to be processed at a subscriber station to evidence	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	<p>Page 49 lines 26-27.</p> <p>Page 315 lines 20-24.</p> <p>Page 44 lines 26-32.</p>	<p><b>programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.</p> <p>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.</p> <p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <p>... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...</p> <p>... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership</p>
one of an availability, use, and usage of one of video, audio, and text associated with at least one of said data and said mass medium programming presentation;	Column 18 lines 29-41.	FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service.	<p>Page 49 line 26 to page 50 line 20.</p> <p>Page 28 lines 26-27.</p> <p>Page 411 lines 10-11.</p> <p>Page 88 lines 19-22.</p>	<p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <p>... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...</p> <p>... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership</p>

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		TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 408 lines 18-29.	and programming usage.  Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above escribed fashion.  Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.  The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...  Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.  Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.  ... because the station of Fig. 7 (and Fig. 7B)
		The processors, 204 and 210, transfer this information to signal processor, 200,	Page 414 lines 13-27.	
			Page 15 lines 16-22.	
			Page 36 lines 32-33.	
			Page 38 lines 11-14.	
			Page 411 lines 10-15.	

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				<p>is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p>
			<p>Page 418 line 23 to page 419 line 15.</p>	<p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in ...</p>
	<p>for recording and subsequent transmission to a remote data collection site.</p>		<p>Page 173 line 30 to page 174 line 23 from example #3.</p>	<p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said</p>

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			<p>received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1<sup>st</sup> monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p> <p>Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...</p>	<p>received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1<sup>st</sup> monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.</p> <p>Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...</p>
		<p>Page 419 lines 4-15.</p>	<p>Page 28 lines 25-35.</p>	
		<p>Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a remote site.</p>		
			<p>Page 397 lines 17-20.</p>	
			<p>Page 437 lines 1-6.</p>	
communicating to and storing at said storage device	Column 19 lines 23-27.	<p>... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...</p>		<p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular</p>

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	Reference	Language	Reference	Language
said at least one first instruction signal	Column 19 lines 12-15.	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 439 lines 9-15.	apparatus ... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... ... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ... ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program. As Fig. 4 shows, ...in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205. ... cause microcomputer, 205, to input particular preprogrammed instructions to said controller, 20, ... In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C....
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	
			Page 445 lines 24-27.	
			Page 446 lines 18-23.	
			Page 288 lines 13-20.	
			Page 445 lines 8-10.	
			Page 435 lines 16-18.	
			Page 248 lines 22-26.	

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<p>which is effective at a subscriber station to select one of said data and said mass medium programming presentation;</p>	<p>Column 19 lines 20-29.</p>	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 250 lines 13-16.</p> <p>Page 252 lines 15-35.</p> <p>Page 267 lines 20-28.</p>	<p>Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter-monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5)</p>



Claim Language	Support to parent application filed November 3, 1981.	Language	Reference	Support to instant specification.	Language
		<p>Then, in a predetermined fashion, microcomputer, 205, may</p> <p>instruct tuner, 214, to switch box, 201, to channel X</p> <p>and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"</p>	<p>Page 436 line 9 to page 437 line 6.</p>	<p>and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p>	

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		<p>and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on</p> <p>and tuner, 215, to tune appropriately to "Wall Street Week."</p>	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>	<p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>...instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>...and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>
communicating to and storing at said storage device	Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn	Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-

Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.	Language
Reference	Reference	Reference	Language
<p>said at least one first instruction signal</p> <p>which is effective at a subscriber station to generate output to be associated with one of said data and said mass medium programming;</p>	<p>video recorder, 217, on and record "Wall Street Week," ...</p> <p>Column 19 lines 42-44.</p> <p>Column 19 lines 45-53.</p>	<p>on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>Microcomputer, 205, is preprogrammed to ... respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is</p>	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 21 lines 20-24.</p> <p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
			<p>Page 37 line 26 to page 38 line 8.</p> <p>Page 24 lines 5-16.</p> <p>These signals instruct microcomputer, 205,</p> <p>to generate several graphic video overlays,</p> <p>which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to</p>	<p>detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p> <p>...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining</p>

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				<p>said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>	<p>said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>
communicating to and storing at said storage device	Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.	

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said at least one first instruction signal	Column 20 lines 27- 31.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 ...	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 471 line 26 to page 472 line 17.</p>	<p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p>

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<p>which is effective to generate output to be associated with one of a product, a service, and an information presentation;</p>	<p>Column 20 lines 37-42.</p>	<p>The signal transmission from processor, 204, also passes a signal word to signal processor, 200,</p> <p>which, in a predetermined fashion, signal processor, 200, decrypts and transfers</p>	<p>Page 477 lines 8-23.</p> <p>Page 281 lines 1-6.</p> <p>Page 282 line 2 to page 283 line 33.</p>	<p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations ... to cause an instance of particular <b>covert control</b> information that is in said instruction to be placed at particular control-function-invoking information memory of the controller, 39, of said decoder, 290. In due course, said programming originating ...</p> <p>By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "<b>covert control.</b>")</p> <p>... the information of said segments is encrypted prior to transmission ...</p> <p>The ... program originating studio embeds and transmits the 1st supplementary message (#6) before transmitting said second message. Just as is the case with the first message of example #4, ... receiving the 1st supplementary message (#6) causes the apparatus of said station to decrypt said message (using key J) and execute any controlled functions that are invoked by the unencrypted execution segment of said message. ...</p> <p>Executing said information causes control</p>

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		Reference	Language	Reference	Language
			to decrypter, 224, to serve as the code upon which decrypter, 224, will decrypt the incoming encrypted recipe.	Page 478 lines 1-5.	processor, 39J, ... to locate the location of that particular instance of controlled-function-invoking information that is "100110" ... and modify the information at said location to be "111111".  (Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above--for example, in the method of the first message of example #4.)
communicating to and storing at said storage device said at least one first instruction signal which is effective	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.		Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular programmed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.



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to display	Column 10 line 64 to Column 11 line 1.	At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93.	Page 325 lines 17-24.	In line between each of the aforementioned receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75.
	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 324 line 31 to page 325 line 2.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, ...
			Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said

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		<p>Then, in a predetermined fashion, microcomputer, 205, may</p>		<p>program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its</p> <p>...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,</p> <p>...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p>
	<p>instruct tuner, 214, to switch box, 201, to channel X</p>		Page 439 lines 9-15.	
	<p>and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"</p>		Page 295 lines 6-8.	
	<p>and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on</p>		Page 445 lines 24-27.	
			Page 446 lines 18-23.	
	<p>and tuner, 215, to tune appropriately to "Wall Street Week."</p>		Page 445 line 24 to page 446 line 1.	
			Page 445 line 35 to page 446 line 1.	

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one of a combined and	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...  And the Fig. 1C combining is displayed.
a sequential presentation of a mass medium program	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 451 line 3.  Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
and a subscriber specific datum;	Column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 25 lines 33-34.  Page 26 lines 8-11.	Then the host says, "And here is what your portfolio did."  TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...
communicating to and storing at said storage device said at least one first instruction signal which is effective to process	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
a subscriber reaction to said mass medium programming presentation;	Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 471 line 26 to page 472 line 17.	<p>or 78, to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular,</p>
a subscriber reaction to said mass medium programming presentation;	Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and	Page 471 lines 6-25.	

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
		process further ...		<p>the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.</p> <p>Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.</p>
communicating to and storing at said storage device said at least one first instruction signal which is one of: (i) effective to	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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Column 13 lines 17-20.	The signals that enable the decrypter/interrupter, 101, to decrypt and/or transfer programming uninterrupted may be embedded in the programming or may be elsewhere.		Page 291 lines 9-24	programming.  In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, ... to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, ... <i>on the frequency of said master control channel</i> . (Hereinafter said message is called the "local-cable-enabling-message (#7).")  In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...  In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.  particular master cable control channel (that <i>may or may not be cable channel 13</i> ) from the multi-channel cable system  Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.  Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from
			Page 289 lines 22-27	
			Page 290 lines 28-29	
			Page 298 lines 17-21.	
			Page 299 lines 19-22.	

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communicate to a remote station a query in respect of information to be associated with one of said data and said mass medium programming and (ii) effective to display of one of said data and said mass medium programming;	Column 15 lines 20-25.	In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.	<p>Page 311 line 33 to page 312 line 8.</p> <p>Page 293 lines 32-35.</p> <p>Page 301 lines 6-9.</p> <p>Page 308 line 35 to page 309 line 3.</p>	<p>said tuner, 215, to the output that outputs to decryptor, 224, ...</p> <p>And for example, determining that a local station is not preprogrammed properly and/or that decryption, ... apparatus are not functioning correctly may cause apparatus of said station ... interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. And for example, the transmitted programming ...</p> <p>At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion....</p> <p>... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly ...</p> <p>At each station where a ... a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly ...</p>
communicating to and storing at said storage device	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of</p>

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<p>said at least one first instruction signal which is effective to control a subscriber station to receive information to supplement said mass medium programming; and</p>	<p>Column 17 lines 39-46.</p>	<p>Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are <b>addressed</b>, and transfer such signals to such equipment as <b>directed</b>. This permits many valuable techniques for facilitating the operation of such external equipment.</p>	<p>Page 15 lines 16-23.</p> <p>Page 34 lines 24-26.</p> <p>Page 44 lines 14-15.</p> <p>Page 95 lines 18-21.</p> <p>Page 390 lines 26-29.</p>	<p>programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p> <p>The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which said signals are <b>addressed</b>, and outputs said signals to said apparatus ...</p> <p>A command is an instance of signal information that is <b>addressed</b> to particular subscriber station apparatus and that ...</p> <p>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is <b>addressed</b> to URS microcomputers, 205, and to transfer said message to microcomputer, 205.</p> <p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the</p>	



Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
communicating to and storing at said storage device	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	operations of ultimate receiver stations in varieties of ways.  Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular programmed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
one of a code	Column 2 lines 65-66.	Examples of signal units are a unique code identifying a programming unit, ...	Page 14 lines 27-29.	Examples of signal units are a unique code identifying a programming unit, ...
and datum	Column 17 lines 39- 44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are	Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals

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to one of serve as a basis for enabling an output device	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 34 lines 24-26.	to digital information; ... ... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...
			Page 44 lines 14-15.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...
			Page 95 lines 18-21.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
			Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...
			Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
			Page 436 line 9 to page 437 line 3.	Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CCI3...

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<p>to display one of at least a portion of said data and said mass medium programming and a processor to process said processor instructions.</p>	<p>Column 18 lines 56-58.</p>	<p>... signal processor, 200, to hold examples of the sought for unique signals in its buffer/ comparator, 8, and compare them with all incoming signals.</p>	<p>Page 439 lines 14-15.  Page 420 lines 6-20.  Page 422 lines 33 to Page 423 line 4.</p>	<p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio ...</p> <p>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".</p> <p>...said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the</p>

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
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					news-items-of-interest information....
45. The method of claim 43, said method further comprising the steps of:	Column 4 lines 5-9.  Column 16 lines 25-32.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...  One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 13 lines 25-28.  Page 319 lines 23-30.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.  One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.	
selecting at least one from the group consisting of: (1) a datum that identifies computer software in a programming signal;	Column 3 lines 6-8.  Column 19 lines 46-48.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  ... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 14 line 35 to page 15 line 2.  Page 23 line 35 to page 24 line 4.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.	

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(2) a datum that designates an addressed apparatus;			Page 37 line 26 to page 38 line 8	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.	
	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	
	Column 19 lines 46-48.	... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.	
(3) a datum that is part of a decryption code;			Page 37 line 26 to page 38 line 8	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.	
	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	
	Column 13 lines 31-32.	The signal or signals may transmit a code or codes necessary for the decryption of the	Page 292 lines 7-11.	Receiving said message causes controller, 20, to load the enable-CC13 instructions and the	

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
		transmission.	<p>Page 54 lines 2-6.</p> <p>Page 294 lines 28-35.</p> <p>Page 295 line 27 to page 296 line 2.</p>	<p>enable-WSW instructions of the information segment of said message at particular RAM of controller, 20, and execute said instructions as the machine language instructions of one job.</p> <p>An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art.</p> <p>Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions.</p> <p>Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,....</p> <p>... thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program....</p>
(4) a datum to be compared to a communication schedule; and	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.

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embedding said selected at least one datum in said signal; and	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming with the programming schedule ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or

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	Reference	Language	Reference	Language
				<p>network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
<u>ONE OF:</u>  storing said selected at least one datum at said storage device concurrently with said at least one first instruction signal.			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p> <p>One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.</p> <p>Subsequently, the subscriber might play back the recorded programming and view said programming on TV monitor, 202M, from 10:45 PM to 11:15 PM the same evening. So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said</p>
	<p>Column 11 lines 64-65.</p> <p>Column 16 lines 25-32.</p>	<p>... instructs the recorder/player, 76 or 78, to turn on and record the programming.</p> <p>One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.</p> <p>Subsequently, the person might play the recorded programming on TV set, 132, from 10:45 PM to 11:15 PM the same evening. This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.</p>	<p>Page 329 line 15-16.</p> <p>Page 319 lines 23-30.</p>	
	<p>Column 16 lines 43-47.</p>		<p>Page 320 lines 24-31.</p>	



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<u>OR:</u> storing said selected at least one datum at said storage device concurrently with said at least one first instruction signal.	Column 19 lines 24-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...	Page 295 lines 6-8.  Page 439 lines 9-15.	meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131 ...	
	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...	
	Column 16 lines 43-47.	Subsequently, the person might play the recorded programming on TV set, 132, from 10:45 PM to 11:15 PM the same evening. This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.	Page 320 lines 24-31.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.	
		Subsequently, the subscriber might play back the recorded programming and view said programming on TV monitor, 202M, from 10:45 PM to 11:15 PM the same evening. So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131 ...			
46.	The method of	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78,	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to

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		Language		Language	
claim 43, further comprising the step of: storing at said storage device concurrently with said at least one first instruction signal information to evidence one of an availability, use, and usage of said at least one first instruction signal, said evidence information one of designating and identifying at least one of:	Column 19 lines 24-25.	to turn on and record the programming. ... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...		Page 295 lines 6-8.	turn on and record programming, ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...
	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.		Page 439 lines 9-15.  Page 319 lines 23-30.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...  One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
	Column 16 lines 43-47.	Subsequently, the person might play the recorded programming on TV set, 132, from 10:45 PM to 11:15 PM the same evening. This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.		Page 320 lines 24-31.	Subsequently, the subscriber might play back the recorded programming and view said programming on TV monitor, 202M, from 10:45 PM to 11:15 PM the same evening. So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131 ...
(1) a mass medium program;	Column 15 lines 62-63.	[The signals for which the decoders are monitoring] may convey unique identifier codes for each program or commercial.		Page 49 lines 26-28.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:
				Page 50 lines 6-7.	...unique identifier codes for each program unit (including

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	Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 319 lines 30-33.	commercials); .... For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.
(2) a proper use of programming;	Column 18 lines 30-35.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned, ...	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above escribed fashion.
			Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.
			Page 15 lines 16-22	The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
			Page 411 lines 10-15	... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor

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				Page 418 line 23 to page 419 line 15.	information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.  Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.
(3) a transmission station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.		Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(4) a receiver station;	Column 16 lines 45-47.	This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.		Page 320 lines 27-31.	So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131....
(5) a network;	Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.		Page 319 lines 30-33.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.
(6) a broadcast station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.		Page 49 lines 26-28.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:

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				Page 50 lines 1-4.	... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(7) a channel on a cable system;		Column 16 lines 35-39.	Recorder, 135, might receive the programming over Manhattan Cable TV channel 4 and record the programming from 7:00 PM to 7:30 PM on the evening of July 15, 1985.	Page 319 line 33 -- Page 320 line 2.	Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985.
(8) a time of transmission;		Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(9) an instruct signal;		Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 315 lines 20-24.  Page 44 lines 26-32.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.  Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.  Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:

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				Page 28 lines 26-27.	... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.  ... <b>monitor information that identifies what programming</b> is available, ...
(10) a source or supplier of data;	Column 15 lines 63-65.	In the case of data transmitted to the micro-computer, [the signals for which the decoders are monitoring] may be unique codes that identify the source and suppliers of the data.		Page 49 lines 26-28.  Page 50 lines 19-20.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ...  ... unique codes that identify the sources and suppliers of computer data.
(11) one of a distributor and an advertisement; and	Column 15 lines 65-68.	In the case of data received at the printer, [the signals for which the decoders are monitoring] may identify publications, articles, publishers, distributors, advertise ments, etc.		Page 321 lines 1-6.  Page 360 lines 31-34.  Page 496 lines 12-13.  Page 496 lines 28-35.	Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming when said tapes or discs are played. For example, laser disc player, 232, can  For example, another of the aforementioned discounts and cents- off coupon specials is of a particular product ... that is advertised ...  At printer, 221, the printed so-called "hard copy" of said offer and coupon information emerges as:  ..... ..... ..... 15 cents off ..... ..... Nabisco Zweiback Teething Toast ..... ..... .....

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(12) an indication of a payment obligation.		column 20 lines 49-58.	...and thence to printer, 221, for printing. Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received. Subsequently, when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, that site can determine for billing purposes that the recipe was, first, ordered and, second, delivered.	Page 49 lines 26-28.  Page 50 lines 14-17.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ...unique codes for programming (other than programming identified by program unit codes) whose use obligates users to make payments (eg., royalties and residuals);....
47. The method of claim 43, wherein said at least one first instruction signal comprises downloadable code, said method further comprising the steps of: selecting at least one second instruction signal, said at least one second instruction signal including at least one from the group consisting of:		Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.  Page 59 lines 29-33	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
(1) a switch control instruction;		Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned

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			<p>dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
(2) a timing control instruction;	Column 11 lines 38-39.	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b></p>



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					<p>with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
(3) a locating control signal;				Page 84 lines 26-28.	
				Page 28 lines 26-27.	
				Page 49 lines 26-27.	
(3) a locating control signal;	Column 14 lines 54-55.	If signal processor, 112, has been preprogrammed with the signal or signals ...		Page 298 line 33 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.
	Column 14 lines 54-61.	If signal processor, 112, has been preprogrammed with the signal or signals		Page 298 line 33 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.
		or if it has been informed of the predetermined fashion for identifying and processing the needed signal or signals in the incoming transmission from facility, 113,		Page 289 line 22 to page 290 line 10.	<p>In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ...</p> <p>Receiving any given instance of please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to select particular WSW-on- CC13-at-particular-8:30 information in said received information,</p>

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		for example, where to look for the signals	<p>Page 290 lines 11-12.</p> <p>Page 290 lines 26-30.</p> <p>OR</p> <p>Page 298 lines 17-18.</p> <p>Page 298 line 34 to page 299 line 1.</p> <p>Page 290 lines 11-17.</p> <p>OR</p> <p>Page 297 lines 20-21.</p> <p>Page 290 lines 11-12, lines 21-26.</p>	<p>record said selected information at particular memory, and execute particular receive-authorizing-info-at- appointed-time instructions. ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20,....</p> <p>... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200,....</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20,....</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time....</p> <p>Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, ....</p> <p>In a predetermined fashion, executing said instructions causes controller, 20,....</p> <p>....transmits particular preprogrammed</p>	<p>record said selected information at particular memory, and execute particular receive-authorizing-info-at- appointed-time instructions. ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20,....</p> <p>... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200,....</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20,....</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time....</p> <p>Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, ....</p> <p>In a predetermined fashion, executing said instructions causes controller, 20,....</p> <p>....transmits particular preprogrammed</p>

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			<p>Page 291 lines 21-28.</p> <p>Page 295 line 30 to page 296 line 1.</p> <p>299 lines 13-18.</p> <p>Page 299 lines 13-25.</p>	<p>enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6,...</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of</p> <p>enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. ...</p> <p>Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. ...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a</p>

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		decryption of the channel that box, 114, passes to decryptor/interruptor, 115,		selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, ...
		in this case, is not located in the channel transmission.	Page 298 line 34 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...
		They may be preprogrammed into the signal processor (for example,	Page 299 lines 13-17.	Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, ...
		in programmable random access memory controller, 20, in Fig. 1)	Page 298 line 33 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...
		or they may be transmitted in a channel other than the channel being transferred from box, 114.	Page 293 line 20.	...such as, for example, the RAM of controller, 20; ...
			Page 291 lines 10-20.	...said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and ... enable-WSW instructions that include particular enable-WSW-programming information, ... on the frequency of said master control channel. (Hereinafter said

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			<p>message is called the "local-cable-enabling-message (#7)." ...</p> <p>... said "Wall Street Week" program when transmission of said program on cable channel 13 commences. ...</p> <p>... particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system ...</p> <p>Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions.</p> <p>Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ...</p>	<p>... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.</p>
			<p>Page 289 lines 25-27.</p> <p>Page 290 lines 28-29.</p> <p>Page 294 lines 28-35.</p>	
(4) an instruct-to-contact signal that designates a remote receiver station;	Column 8 lines 58-62.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2. An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit.	<p>Page 290 lines 26-31.</p> <p>Page 291 lines 21-24.</p> <p>Page 59 lines 29-31.</p>	

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				Page 402 lines 22-26.	... causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.  Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30. Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.
				Page 403 lines 7-12.	Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...
				Page 405 lines 20-29.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when
(5) an instruct-to-transfer signal that designates one of broadcast and cablecast programming;		Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	

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			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
(6) an instruct-to-delay signal that designates one of broadcast and cablecast programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p>

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				Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
(7) at least one of an instruct-to-decrypt and an instruct-to-interrupt signal that designates programming and a way to at least one of decrypt and interrupt;	Column 13 lines 24-25.	The signal or signals instruct decrypter/interrupter, 101, to decrypt the transmission ...		Page 298 lines 10-21.	Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load- and-run-@20 instructions, to load the 1st-stage-enable-WSW-program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job. Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.
(8) at least one of an instruct-to-enable and instruct-to-disable signal that designates an apparatus;	Column 20 lines 31-37.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form and instruct control means, 226, to activate printer, 221.		Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...  Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567#



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			<p>476 line 34 to page 477 line 8.</p> <p>Page 477 lines 8-17.</p> <p>Page 474 lines 3-7.</p> <p>Page 473 line 29 to page 474 line 1.</p>	<p>information exists at said last-local-input-# memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p> <p>... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...</p> <p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said <b>generate-recipe-</b> ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the</p>
	<p>Column 20 lines 45-46.</p>	<p>... and all necessary equipment was enabled.</p>		

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
				buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
(9) an instruct-to-record signal that designates at least one of a broadcast and a cablecast program;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
	Column 19 lines 20-27.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 436 line 9 to page 437 line 6.	

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
				<p>information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... instructions causes controller, 20, ...; to</p>
		Then, in a predetermined fashion, microcomputer, <b>205</b> , may		<p>Page 439 lines 9-15.</p>
		instruct tuner, <b>214</b> , to switch box, <b>201</b> , to channel X		<p>Page 439 lines 9-15</p> <p>Page 295 lines 6-8.</p>
				<p>Page 445 lines 24-27.</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
		and may instruct and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 446 lines 18-23.	switch power on to video recorder/player, 217, ... ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
(10) a control signal that controls a media presentation;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.  Page 26 lines 4-11.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance



Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
	<p>Column 19 lines 20-23.</p>	<p>.</p> <p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 435 lines 16-25.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
				<p>said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13;...</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p>
	<p>Column 19 lines 27-28.</p>	<p>... and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on ...</p>	<p>Page 439 lines 14-15.</p> <p>Page 445 line 24 to page 446 line 1.</p>	

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
(13) an instruct-to-tune signal that designates one of a receiver and a frequency;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming ...</b>	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions ...</b>	
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...	
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.	
	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, <b>205</b> , determines that "Wall Street Week" is being televised on channel X.	Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands	



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Reference	Language	Reference	Language
		<p>are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p>	<p>Page 435 lines 16-25.</p> <p>Page 436 line 9 to page 437 line 3.</p>

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		Reference	Language	Reference	Language
			</		

Claim Language	Support to parent application filed November 3, 1981.	Reference	Language	Support to instant specification.	Language
		<p>Then, in a predetermined fashion, microcomputer, 205, may</p> <p>instruct tuner, 214, to switch box, 201, to channel X</p> <p>and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"</p> <p>and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on</p>	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 445 line 24 to page 446 line 1.</p>	<p><i>the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i></p> <p>Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its</p> <p>...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,</p> <p>...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder,</p>	

Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.	Language
Reference	Language	Reference	Language
	<p>and tuner, 215, to tune appropriately to "Wall Street Week."</p>	<p>145, to switch power on to monitor, 202M, ...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic</p>	<p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p> <p>Page 25 line 33 to page 26 line 2..</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-8.</p>

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		Reference	Language	Reference	Language
		Column 19 line 30.	<b>Co-ordinating Multimedia Presentations in Time</b>	<i>See generally</i> page 447 line 25 to page 457 line 10.	information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  <b>Controlling Computer-based Combined Media Operations</b>
(15) an instruct-to-compare signal that designates at least one of a news transmission and a computer input;		Column 18 lines 48-55.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 420 line 21 to page 421 line 7.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200. Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ... In due course, said remote news-service-A station ...
(16) an identifier signal that causes a computer to instruct a plurality of tuners each to tune to one of a broadcast and a cablecast transmission;		Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming

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	Reference	Language	Reference	Language
				<p>schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes</p>
	Page 84 lines 26-28.			
	Page 28 lines 26-27.			
	Page 49 lines 26-27.			
	Page 436 line 9 to page 437 line 6.			
	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...</p>			
	Column 19 lines 20-25.			

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			<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>	<p>microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... ... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p>

Claim Language		Support to parent application filed November 3, 1981		Support to instant specification.	
		Reference	Language	Reference	Language
(17) an instruct-to-coordinate signal that designates two units of media information and one of: (1) an output time and (2) an output place;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...		
	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.  Page 26 lines 4-11.  Page 451 line 3.  Page 18 lines 24-27.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.  Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel	



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(18) an instruct-to-generate signal that designates at least one output datum;	Column 19 line 60 to column 20 line 1.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	page 450 line 27 to page 451 line 11.	<p>presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>	
	Column 19 line 60 to column 20 line 1.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said</p>	

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
		<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	Page 26 lines 4-11.	<p>information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...</p>
(19) an instruct-to-transmit signal that designates at least one computer output;	Column 19 line 60 to column 20 line 1.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of</p>

Claim Language		Support to parent application filed November 3, 1981		Support to instant specification	
	Reference	Language		Reference	Language
			<p>This signal instructs microcomputer, <b>205</b>, to transmit the first overlay to TV set, <b>202</b>, for as long as it receives the same instruction signal from processor, <b>204</b>.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	<p>Page 26 lines 4-11.</p>	<p>forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, <b>205</b>, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, <b>202M</b>. TV monitor, <b>202M</b>, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, <b>205</b>, commences ...</p>
(20) an instruct-to-overlay signal that designates at least one television image;	Column 19 lines 60 to page 20 line 2.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, <b>203</b>, and transferred via processor, <b>204</b>, to microcomputer, <b>205</b>. This signal instructs microcomputer, <b>205</b>, to transmit the first overlay to TV set, <b>202</b>, for as long as it receives the same instruction signal from processor, <b>204</b>. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, <b>203</b>; transferred to microcomputer, <b>205</b>; ...</p> <p>In each decoder, the controller, <b>39</b>, <b>44</b>, or <b>47</b>, receives detected digital information from the relevant detector or detectors, <b>34</b>, <b>37</b>, <b>38</b>, <b>43</b>, and <b>46</b>. Upon receiving any given instance of signal information, controller, <b>39</b>, <b>44</b>, or <b>47</b>, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ...</p>	

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
				to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
			Page 26 lines 4-11.	
			Page 451 line 3.	
(21) an instruct- that-if signal that designates a function to perform if a predetermined condition exists;	Column 20 lines 27-36.	Five minutes later,  a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.  This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion,	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause an instance of ...  (An alternate method for inputting said second message to the microcomputers, 205,
		instruct tuner, 223, to tune cable converter box, 222, to the appropriate	Page 476 line 34 to page 477 line 8.	

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		channel to receive the recipe in encoded digital form ...		<p>at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to <b>cause the tuner, 223, of a selected converter box, 222, to tune said box, 222,</b> to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p>
			Page 477 lines 8-17.	
(22) an instruct-to-enable-and-deliver signal that designates information that at least one of completes and supplements a television program;	<p>Column 19 lines 59-60.</p> <p>Column 19 lines 63-66.</p>	<p>Then the host says, "And here is what your portfolio did."</p> <p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,</p>	<p>Page 25 lines 33-34.</p> <p>Page 26 lines 1-8.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>Then the host says, "And here is what your portfolio did."</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43,</p>

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(23) an instruct-to-transmit signal that designates a computer peripheral device;	Column 19 lines 63-66.	and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
	Page 26 lines 1-8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
	Page 37 line 26 to page 38 line 8.	

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(24) a code signal that designates a datum to one of remove and embed; and	Column 12 lines 35-41.	The cable head end facility also contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from programming as required, and signal generators, 82, 86, and 90, also well known in the art, that controller/ computer, 73, can instruct to add signals to programming as required.		Page 354 lines 18-24.	Fig. 6 shows signal strippers, 81, 85, and 89, of which models exist well known in the art, that computer, 73, can cause to remove SPAM information from programming as required, and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.
(25) a signal addressed to a receiver station apparatus;	Column 18 lines 1-7.	Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205. Microcomputer, 205, uses such received signals, in a predetermined fashion, to govern the operation of furnace, 206, air conditioning system, 207, and window opening and closing means, 208.		Page 400 lines 3-4.  Page 35 lines 11-15.  Page 35 lines 24-27.  Page 35 lines 28-31.  Page 400 lines 6-18. See Fig. 3A regarding the composition of controller 39.	Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to ...  ... the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which...  ... said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.  ... separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39.  Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to ... to input the information of the information segment of said message to the CPU of microcomputer, 205; ... and to cause said

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			<p>Page 37 line 28 to page 38 line 8.</p> <p>Page 400 lines 19-22.</p> <p>Page 401 lines 14-17.</p>	<p>CPU to execute the information so inputted as a machine language job.</p> <p>Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>So executing said information causes microcomputer, 205, to reducing the power usage of said air conditioning system, 207, causes any open windows at said station to be closed.</p> <p>In this fashion, SPAM messages can control and regulate the operation of individual subscriber station controlled apparatus (the thermostat control of furnace, 206, for example, could be similarly controlled) ...</p>
(26) an instruct-to-store signal that designates at least a portion of a program to be at least one of broadcast and cablecast; and	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of</p>



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	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 329 line 2-22.</p>	<p>Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular programmed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said</p>

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(27) an instruct-to-transmit signal that designates at least a portion of a program to be at least one of broadcast and cablecast; and	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	programming. Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.	
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...	
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...	
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.	
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62,	

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			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
<p>embedding said selected at least one second instruction signal in said signal; and</p>	<p>Column 19 lines 43-44.</p> <p>Column 19 lines 60-63.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p>	<p>Page 21 lines 23-24.</p> <p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p>

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			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
<u>ONE OF:</u> storing said selected at least one second instruction signal at said storage device concurrently with said at least one first instruction signal.	Column 11 lines 64-65.  Column 19 lines 43-44.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.  ... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 329 line 15-16.  Page 21 lines 23-24.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...  ... instruction signals embedded in the "Wall Street Week" programming transmission.
<u>OR:</u> storing said selected at least one second instruction signal at said storage device concurrently with said at least one first instruction signal.	Column 19 lines 24-25.  Column 19 lines 43-44.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...  ... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 295 lines 6-8.  Page 439 lines 9-15.  Page 21 lines 23-24.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...  ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...  ... instruction signals embedded in the "Wall Street Week" programming transmission.
48. A transmitter station apparatus comprising:	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the

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		operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.			operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
a transmitter for transmitting	Column 12 lines 45-46.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming ...	Page 337 lines 3-10.		In field distribution system, 93, amplifier, 94, inputs ... all programming transmitted by the cable television system head end station...
a mass medium programming signal comprising mass medium program materials,	Column 12 lines 57-61.	This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 9-26.		So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
downloadable code, and	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.		Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named

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			<p>FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.</p> <p>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes</p>
		<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p><i>OR</i> Page 315 lines 20-24.</p> <p>Page 44 lines 26-32.</p>	
	<p><i>OR</i> Column 15 lines 57-60.</p>	<p>The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.</p>	

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at least one instruction signal;			<p>subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.</p> <p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <ul style="list-style-type: none"> <li>... unique codes for programming; ... and</li> <li>unique codes that identify the sources and suppliers of computer data.</li> </ul> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>The present invention employs signals embedded in programming.</p>	
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 49 line 26 to page 50 line 20.	
	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming ...</b>	Page 28 lines 26-27.	
			Page 13 lines 25-26.	
			<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>	
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate

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	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 435 lines 16-25.</p> <p>Page 436 line 9 to page 437 line 3.</p>	<p>transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that</p>



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				<p>contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to...</p> <p>Said instructions contain one instance, and ...</p> <p>program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i></p> <p>Automatically, microcomputer, 205, compares said one instance to said</p> <p>program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW</p> <p>-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>
			Page 439 lines 14-15.	<p>... one or more recorder/players, 76 and 78,...</p>
a storage device operatively connected to said transmitter for	Column 10 lines 42-43.  Column 10 lines 40-47.	<p>... one or more video recorder/players, <b>76</b> and <b>78</b>, ...</p> <p>All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, <b>75</b>), to one or more video recorder/players, <b>76</b> and <b>78</b>, and/or to equipment that outputs them over various channels to the cable system's field distribution system, <b>93</b>, which equipment</p>	Page 324 line 35.  Page 324 line 31 to page 325 line 4.	<p>Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus</p>

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storing and outputting	Column 12 lines 45-46.	includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	Page 337 lines 3-10.	In field distribution system, 93, amplifier, 94, inputs ... all programming transmitted by the cable television system head end station...
	Column 10 lines 48-52.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming ... Programming can also be manually delivered to the facility on prerecorded video tapes and videodiscs. When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	...	Page 325 lines 5-9.	Programming can also be manually delivered to said station on prerecorded videotapes and videodiscs. When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	Column 16 lines 47-50.	Prerecorded video cassettes and videodiscs could also contain unique embedded codes that would identify their usage (and could also transfer instructions to other external equipment).	...	Page 321 lines 1-5.	Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming.... ...this method enables any subscriber who records the transmission of said programming at a recorder/player, 217, to access the embedded information of said instructions automatically in this fashion whenever the recorded transmission of said programming is played back....
said mass medium program materials, said downloadable code, and said at least one	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator,	...	Page 473 lines 14-17.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred....
				Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...

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instruction signal;	14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
		Page 436 line 9 to page 437 line 3.	Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...
		Page 439 lines 14-15.	Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. ... to receive the transmission of cable

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	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.		Page 330 lines 5-15.	channel 13; ... Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
a control signal detector operatively connected to said storage device for detecting said at least one instruction signal; and	Column 6 lines 48-50.	This base band signal is then transmitted through separate paths to three separate detector devices.		Page 34 line 35 to page 35 line 1.	This base band signal is then transferred through separate paths to three separate detector devices.
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.		Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...		Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of

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			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
a computer operatively connected to said storage device and said control signal detector for	<p>Column 11 lines 15-17.</p> <p>Column 11 lines 44-46.</p> <p>Column 12 lines 26-29.</p>	<p>Cable program controller and computer, <b>73</b>, is the central automatic control unit for the transmission facility.</p> <p>Controller/computer, <b>73</b>, has means for communicating control information with matrix switch, <b>75</b>, and video recorder/players, <b>76</b> and <b>78</b>.</p> <p>Decoders, <b>77</b> and <b>79</b>, inform controller/computer, <b>73</b>, what specific programming is loaded on recorder/players, <b>76</b> and <b>78</b> respectively, and what signals it contains.</p>	<p>Page 326 lines 19-20.</p> <p>Page 328 lines 14-16.</p> <p>Page 330 lines 5-15.</p>	<p>Cable program controller and computer, <b>73</b>, is the central automatic control unit for the transmission station.</p> <p>Computer, <b>73</b>, has means for communicating control information with matrix switch, <b>75</b>, and video recorders, <b>76</b> and <b>78</b>, ...</p> <p>Computer, <b>73</b>, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, <b>76</b> and <b>78</b>, ...</p> <p>Whenever programming is played on recorder, <b>76</b> or <b>78</b>, decoder, <b>77</b> or <b>79</b> respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, <b>76</b> or <b>78</b>, and transmits said SPAM information to computer, <b>73</b>. Said SPAM information can include ... "program unit identification code" ...</p>
controlling communication of one of said mass medium	Column 11 lines 57-65.	Similarly, if controller/computer, <b>73</b> , determines that incoming programming should be recorded for delayed	Page 329 line 2-22.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, <b>73</b>, to cause</p>

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program materials and said downloadable code		transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.		the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 46-53.	When the "Wall Street Week" transmission	Page 23 line 35 to page	Subsequently, a second series of instructions

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	begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	<p>24 line 16.</p> <p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p>	<p>is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchron command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchron command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>

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on the basis of said at least one instruction signal.	<p>Or: Column 15 lines 57-60.</p> <p>Column 11 lines 38-39.</p>	<p>The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.</p> <p>By comparing identification signals on the incoming programming ...</p>	<p>Or: Page 315 lines 20-24.</p> <p>Page 44 lines 26-32.</p> <p>Page 49 line 26 to page 50 line 20.</p> <p>Page 28 lines 26-27.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.</p> <p>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.</p> <p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming</p>



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				<p>schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	
49. The transmitter station apparatus of claim 48, wherein said computer controls said storage device to output said mass medium program materials and said downloadable code to said transmitter on the basis of said at least one instruction signal.	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	<p>Page 328 line 22 to page 329 line 1.</p>	<p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular programmed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p>

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	<p>Column 11 lines 38-43.</p> <p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>Page 327 line 35 to page 328 line 13.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
<p>50. The transmitter station apparatus of claim 48, wherein said computer is operatively connected to said transmitter for communicating</p>	<p>Column 12 lines 38-41.</p> <p>... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.</p>	<p>Page 354 lines 21-24.</p> <p>... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.</p>

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said downloadable code, said apparatus further comprising:	Column 12 lines 45-46. See Figs. 3A-C.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming ...  By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 337 lines 3-10.  See Figs. 6A-B.  Page 327 line 35 to page 328 line 13.	In field distribution system, 93, amplifier, 94, inputs ... all programming transmitted by the cable television system head end station...  Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....  ... monitor information that identifies what programming is available, ...
			Page 28 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 326 lines 30-33.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.
	Column 11 lines 21-24.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ...		

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<p>a signal generator operatively connected to said computer and said transmitter for receiving said downloadable code and embedding said downloadable code on said mass medium programming signal.</p>		Column 12 lines 38-41. See earlier support in this claim.	... signal generators, <b>82</b> , <b>86</b> , and <b>90</b> , also well known in the art, that controller/computer, <b>73</b> , can instruct to add signals to programming as required.	Page 354 lines 21-24. See earlier support in this claim.	... and signal generators, <b>82</b> , <b>86</b> , and <b>90</b> , also well known in the art, that computer, <b>73</b> , can cause to embed SPAM information as required.
		Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
		Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 315 lines 20-24.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, <b>14</b> , via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
				Page 44 lines 26-32.	Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.
				Page 49 line 26 to page 50 line 20.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.
				Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...

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51. The transmitter station apparatus of claim 48, further comprising a switch operatively connected to said transmitter, said storage device, and said computer for	Column 20 lines 46-49.	When the transmission of the recipe is received, box 222, transfers the transmission to decrypter, 224, for decryption and thence to printer, 221, for printing.		Page 473 lines 3-13.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... <b>generate-recipe</b> ... instructions ...  ... selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to ... link ... said selected converter box, 222, and said decoder, 290; ... said decoder, 290, to receive said transmission....  ... causes ... said decoder, 290, to detect and process properly the information of said second message.
				Page 477 lines 12-17.	(Whichever transmission method is employed the information of said second message can be encrypted and caused to be decrypted in any of the methods described above—for example, in the method of the first message of example #4.)
				Page 477 lines 23-29.	Receiving said output information causes printer, 221, to print the information of said specific recipe and list.
				Page 478 lines 1-5.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire, a conventional matrix switch, 75, well known in the art, one or more recorder/players, 76 and 78, apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
	Column 10 lines 40-47.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.		Page 475 lines 1-2.	

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receiving and communicating at least said mass medium program materials on the basis of control instructions communicated by said computer.	Column 11 lines 44-46.  Column 11 lines 50-57.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.  ... if controller/computer, 73, determines that programing incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 lines 14-16.  Page 328 line 22 to page 329 line 1.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ....  For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.  So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
	Column 12 lines 57-61.	This particular embodiment describes a transmission facility transmitting only television programing. The facility could also process and transmit radio programing and other electronic data according to the methods described here ...	Page 339 lines 9-26.	

52.	The method of	Column 10 lines 48-52.	Programing can also be manually delivered	Page 325 lines 5-9.	Programming can also be manually delivered
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claim 33 wherein said storage device includes at least one of a tape and a disk, said method further comprising the steps of:		to the facility on prerecorded video tapes and videodiscs. When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.		to said station on prerecorded videotapes and videodiscs. When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
communicating said television signal, said first television programming, and said processor instructions to said at least one of a tape and a disk; and	Column 11 lines 61-64.  Column 19 line 53-56.  Column 19 lines 60-63.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...  Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.  At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 329 lines 13-20.  Page 25 lines 26-33.  Page 59 lines 29-33.  Page 25 line 34 to page 26 line 1.  Page 90 lines 4-7.	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.  During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.  The second message is of the information associated with the second combining synch command. Said second command has a "00"

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	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 21 lines 23-24.	header, an execution segment, and a meter-monitor ...  ... instruction signals embedded in the "Wall Street Week" programming transmission.
storing said television signal, said first television programming, and said processor instructions at said at least one of a tape and a disk	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.



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	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 21 lines 23-24.  Page 319 lines 23-30.	... instruction signals embedded in the "Wall Street Week" programming transmission.  One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
concurrently.	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its

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				switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
53. The method of claim 33, further comprising the step of: receiving at least one control instruction which operates to	Column 11 lines 39-43.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 9-13.	... said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should <b>transmit each program</b> unit to cable field distribution system, 93.	Page 326 lines 28-30.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
output said television signal, said first television programming, and said processor instructions from said storage device.	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ....
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming	Page 21 lines 23-24.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93. ... instruction signals embedded in the "Wall Street Week" programming transmission.

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		transmission.		
54. The method of claim 53, wherein said storage device includes one or more storage locations in a network having  at least one transmitter station and	Column 10 lines 42-43.  Column 10 lines 15-20.	... one or more video recorder/players, 76 and 78, ...  The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 line 35.  Page 324 lines 8-17.	... one or more recorder/players, 76 and 78, ...  The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
at least one receiver station, said method further comprising the step of:	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 390 lines 30-35.  Page 396 lines 8-10.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.  Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
storing said at least one control instruction in said network.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input,	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,

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	<p>74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>	<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
		<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>
<p>55. The method of claim 54, wherein said at least one control instruction includes at least one identifier which identifies at least one of said first television programming and said processor instructions, said method further</p>	<p>Column 11 lines 21-24.</p>	<p>Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ...</p>
		<p>Page 326 lines 30-33.</p>

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comprising the step of:	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
embedding a portion of said at least one control instruction in at least one of said television signal and	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned

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said processor instructions.	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 21 lines 23-24.</p>	<p>dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p>
56. The method of claim 54, wherein said at least one control instruction includes a transmission schedule, said method further	Column 11 lines 39-41.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	<p>Page 328 lines 9-10.</p> <p>Page 326 lines 28-30.</p>	<p>... with information of the programming schedule, received earlier from input, 74, and/or network, 98, ...</p> <p>... receiving input information from local input, 74, and from remote stations via</p>

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comprising the step of: communicating said transmission schedule to a computer.					telephone or other data transfer network, 98.
57. The method of claim 33, wherein said first television programming is to be outputted for a duration of time in said at least one of a television and a media presentation, only a portion of said duration of time containing a time interval of	See column 19 line 45 through column 20 line 7.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...		See page 21 line 32 through page 27 line 9 and page 451 line 1 through page 452 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...
	Column 19 lines 60 to column 20 line 5.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...		Page 25 line 33 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	TV monitor, 202M, then displays the image ...
				Page 26 lines 8-11.	

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shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.			Page 451 line 3.  Page 26 line 33 to page 27 line 7.	And the Fig. 1C combining is displayed.  As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified. Thereafter the ...
Then the host says, "And here is what your portfolio did."	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3.  Page 26 lines 8-11.	And the Fig. 1C combining is displayed.  TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.	<i>In General</i> Column 17 lines 39- 44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.	<i>In General</i> Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...



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			Page 34 lines 24-26.  Page 44 lines 14-15.  Page 95 lines 18-21.	... identifies the particular apparatus to which said signals are <b>addressed</b> , and outputs said signals to said apparatus ...  A command is an instance of signal information that is <b>addressed</b> to particular subscriber station apparatus and that ...  Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is <b>addressed</b> to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
	<i>Specifically</i> Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	<i>Specifically</i> Page 26 lines 1-2.  Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
embedding at least one of said processor instructions within a part of said television signal which is to be outputted from said storage device within said duration of time.	Column 19 lines 43-49.	... instruction signals embedded in the "Wall Street Week" programming transmission.  When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 21 lines 23-24.  Page 451 lines 6-7.  Page 23 line 35 to page 24 line 4.	... instruction signals embedded in the "Wall Street Week" programming transmission.  When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.

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			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
		These signals instruct microcomputer, 205, ...	Page 24 lines 5-6.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
58. The method of claim 57, wherein, based on said step of selecting said method further comprises the step of:	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
embedding said at least	Column 19 lines 43-44.	... instruction signals embedded in the	Page 21 lines 23-24.	... instruction signals embedded in the "Wall

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one of said processor instructions in a portion of said television signal which is inaudible to a listener when said first television programming is outputted at said at least one output device.		Column 4 lines 22-25.	"Wall Street Week" programming transmission.  In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.	Page 14 lines 11-14.  In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.	Street Week" programming transmission.
59. The method of claim 57, wherein a multiplicity of video images is displayed during said duration of time in a predetermined sequence at said at least one output device, and wherein,		Column 19 line 53-56.  Column 19 lines 56-59.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.  The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	Page 25 lines 26-33.  Page 451 lines 25-32.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.  For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.
based on said step of selecting said method further comprises the step of:		Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The

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					Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, ...  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.  ... an instruction signal is ... embedded in the programming transmission, and transmitted.  ... instruction signals embedded in the "Wall Street Week" programming transmission.
		Page 25 lines 34-35.  Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.			
		... and [the instruction signal] is transmitted in the programming transmission.			
		Column 19 lines 62-63			
		Column 19 lines 43-44.			
	embedding said at least one of said processor instructions in a portion of said television signal which is unviewable by a viewer when said first television programming is outputted at said at least one output device.	Column 4 lines 18-22.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.	Page 14 lines 6-11.	In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.
60. The method of claim 59, wherein said	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence	

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multiplicity of video images includes full motion video.			and tuner, 215, to tune appropriately to "Wall Street Week."		transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
				Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
61. The method of claim 57, wherein, based on said step of selecting said method further comprises the step of:	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...		Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.		Page 25 lines 34-35.  Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, ...  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.  ... an instruction signal is ... embedded in the programming transmission, and transmitted.

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embedding said at least one of said processor instructions in a portion of said television signal which is to be outputted from said storage device before	Column 19 lines 43-49.	... instruction signals embedded in the "Wall Street Week" programming transmission.  When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	... instruction signals embedded in the "Wall Street Week" programming transmission.  When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
		These signals instruct microcomputer, 205, ...	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	Column 20 lines 5-7.	... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...  Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.
the end of said duration of time.			Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's

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				<p>portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p>
62. The method of claim 57, wherein (i) at least a first of said processor instructions is capable of instructing said computer to generate information to complete said first television programming and	Column 19 lines 45-53.	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.</p>	<p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>

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	Reference	Language	Reference	Language
	These signals instruct microcomputer, 205,		Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."
	to generate several graphic video overlays,		Page 451 lines 7-11.	...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
	which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to		Page 19 line 29 to page 20 line 20.	Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.
	transmit these overlays to TV set, 202,		Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV



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<p>(ii) at least a second of said processor instructions is capable of outputting from said computer a portion of said information to complete said first television programming, said method further comprising the steps of: selecting at least one of:</p>	<p>Column 19 lines 60 to page 20 line 2.</p>	<p>upon command.</p> <p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which</p>

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Reference	Reference	Reference	Language
		<p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p>	<p>said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p>
(1) a second time at which to communicate said processor instructions, and	Column 19 lines 45-49.	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 24 lines 5-6.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p>

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
(2) a second location to which to communicate said	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 451 lines 7-9.  Page 25 line 33 to page 26 line 2..  Page 37 line 26 to page 38 line 8.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...  Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.	
	Column 4 lines 18-22.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion	

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processor instructions; and	Column 4 lines 22-25.	line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.  In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.	Page 14 lines 11-14.	of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.  In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.
communicating one of (i) said at least said first of said processor instructions and (ii) said at least said second of said processor instructions	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 25 line 33 to page 26 line 2..  Page 37 line 26 to page 38 line 8.	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and
			Page 26 lines 4-8.	

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	Reference	Language	Reference	Language
<p>Column 19 lines 45-49.</p> <p>to said storage device based on said step of selecting at least one of said second time and said second location.</p>	Column 19 lines 45-49.	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...</p>	<p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p>	<p>transmit the combined information to TV monitor, 202M.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p>
			Page 37 line 26 to page 38 line 8.	<p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 24 lines 5-6.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the	Page 451 lines 7-9.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...
			Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
			Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program

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	<p data-bbox="201 1444 293 1728">incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p> <p data-bbox="784 1444 902 1728"><i>OR</i> Column 19 lines 20-27.</p>	<p data-bbox="201 968 293 1444">incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...</p> <p data-bbox="784 968 902 1444">Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p> <p data-bbox="1422 968 1477 1444">Then, in a predetermined fashion, microcomputer, 205, may</p>	<p data-bbox="784 684 873 968"><i>OR</i> Page 436 line 9 to page 437 line 6.</p>	<p data-bbox="201 153 748 684">unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p data-bbox="784 153 1422 684">Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p data-bbox="1422 153 1477 684">Determining a match causes microcomputer, 205, automatically to input</p>

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		Reference	Language
			said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, ... ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ... ...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
		Page 439 lines 9-15.	
		Page 439 lines 9-15	
	instruct tuner, 214, to switch box, 201, to channel X	Page 295 lines 6-8.	
	and may instruct and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.  Page 446 lines 18-23.	
63. The method of claim 62, wherein second television programming is received, only a portion of said second television programming containing a second time of specific	Column 20 lines 5-7.	... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.	Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.  Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in

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<p>relevance, and wherein</p> <p>said at least said first of said processor instructions is capable of instructing said computer to generate information to complete said second television programming, said method further comprising the steps of:</p>	<p>Column 19 lines 45-53.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.</p>	<p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal</p>



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		<p>These signals instruct microcomputer, 205,</p> <p>to generate several graphic video overlays,</p> <p>which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to</p> <p>transmit these overlays to TV set, 202,</p>	<p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p> <p>Page 26 lines 4-8.</p>	<p>information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p> <p>...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic</p>

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	Reference	Language	Reference	Language
		upon command.	<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p>	<p>information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>
communicating said second television programming to said storage device; and	<p>Column 20 lines 48-49.</p> <p>Column 20 lines 5-7.</p>	<p>... and thence to printer, 221, for printing.</p> <p>... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.</p>	<p>Page 475 lines 1-2.</p> <p>Page 27 lines 7-9 and</p> <p>Page 451 line 22 to Page 452 line 5.</p>	<p>Receiving said output information causes printer, 221, to print the information of said specific recipe and list.</p> <p>Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.</p> <p>Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that</p>

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	Column 19 lines 20-27.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.  Then, in a predetermined fashion, microcomputer, 205, may	Page 436 line 9 to page 437 line 6.	<p>analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input</p>

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	Reference	Language	Reference	Language
				<p>said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>
		<p>instruct tuner, 214, to switch box, 201, to channel X</p>	<p>Page 439 lines 9-15.</p> <p>Page 439 lines 9-15</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>	<p>... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>
<p>storing said second television programming at said storage device concurrently with said television signal, said first television programming and said processor instructions.</p>	<p>Column 19 lines 25-27.</p>	<p>... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...</p>	<p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>	<p>... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
64. The method of claim 63, wherein said first television programming and said second television programming are stored in contiguous television programming in said television signal.		Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.  Page 446 lines 18-23.	... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...  ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
65. The method of claim 33, wherein said first television programming includes a multiplicity of video images to be outputted in a predetermined sequence at said at least one output device for a period of time,		Column 19 line 53-56.  Column 19 lines 56-59.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.  The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	Page 25 lines 26-33.  Page 451 lines 25-32.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.  For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.
only a portion of said period of time including		See column 19 line 45 through column 20 line 7.  Column 19 lines 60 to column 20 line 5.	At this point, an instruction signal is generated in the television studio	See page 21 line 32 through page 27 line 9 and page 451 line 1 through page 452 line 1.  Page 25 line 33 to page 26 line 2.	At this point, an instruction signal is generated at said program originating studio, embedded

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		Reference		Reference	
		Language		Language	
a plurality of time intervals of specific relevance,		originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...		in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...	
				Page 37 line 26 to page 38 line 8.	
				Page 26 lines 8-11.	
				Page 451 line 3.	
				Page 26 line 33 to page 27 line 7.	
				And the Fig. 1C combining is displayed.	
				As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received	

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	Column 20 lines 5-7.	... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.	Page 27 lines 7-9 and  Page 451 line 22 to Page 452 line 5.	<p>composite video and to commence transmitting the received composite video transmission unmodified. Thereafter the ...</p> <p>Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.</p> <p>Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p>
a first portion of said information to at least one of complete and	Column 20 lines 31-37.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate	Page 471 line 26 to page 472 line 17.	

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		channel to receive the recipe in encoded digital form and instruct control means, 226, to activate printer, 221.		<p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p>
			Page 476 line 34 to page 477 line 8.	
			Page 477 lines 8-17.	



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<p>supplement said first television programming is to be presented at said at least one output device</p>	Column 19 lines 63-64.	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 474 lines 3-7.</p> <p>Page 26 lines 1-2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>
	Column 15 lines 44-49.	<p>Each decoder is likely to be located physically inside its associated player/recorder unit. Each is located at a point in the associated unit's circuitry where it receives every embedded signal on the programming channel or data channel to which the unit is tuned ...</p>	<p>Page 314 lines 31-33.</p> <p>Page 315 lines 14-19.</p>	<p>At other output system, 261, is other decoder, 286. Each decoder is likely to be located physically inside the unit of its associated intermediate or output apparatus.</p> <p>In the preferred embodiment, each one of said decoders is located at a point in the circuitry of its associated apparatus where said one receives (so as to detect all SPAM information on) the information of the selected frequency, channel or transmission to which its associated apparatus is tuned.</p>
	Column 19 lines 59-60.	<p>Then the host says, "And here is what your portfolio did."</p>	<p>Page 25 lines 33-34.</p>	<p>Then the host says, "And here is what your portfolio did."</p>
<p>within a first of said plurality of time intervals of specific relevance,</p>	Column 19 lines 60 to column 20 line 5.	<p>At this point, an instruction signal is generated in the television studio</p>	<p>Page 25 line 33 to page 26 line 2.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded</p>

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		<p>originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...</p>	<p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 8-11.</p> <p>Page 451 line 3.</p> <p>Page 26 line 33 to page 27 line 7.</p>	<p>in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received</p>

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a second portion of said information to at least one of complete and supplement said first television programming is to be presented at said at least one output device within a second of said plurality of time intervals of specific relevance,	Column 20 lines 5-7.	... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.
said second of said plurality of time intervals of specific relevance being subsequent to	Column 20 lines 5-7.	... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.
composite video and to commence transmitting the received composite video transmission unmodified. Thereafter the ...	Page 27 lines 7-9 and  Page 451 line 22 to Page 452 line 5.	Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.  Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.  In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.  Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.  Furthermore, it is undesirable to separate

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Reference	Reference	Reference	Language
<p>said first of said plurality of time intervals of specific relevance,</p>	<p>Column 19 lines 60 to column 20 line 5.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the</p>	<p>Page 452 line 5.</p> <p>computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means</p>

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a first of said processor instructions is capable of presenting	Column 19 lines 60-63.	<p>instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...</p> <p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p>	<p>Page 26 lines 8-11.</p> <p>Page 451 line 3.</p> <p>Page 26 line 33 to page 27 line 7.</p> <p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p>	<p>of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified. Thereafter the ...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded</p>

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<p>at said at least one output device said first portion of said information to at least one of complete and</p>	<p>Column 19 lines 63 to column 20 line 2.</p>	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at</p>
		<p>Page 90 lines 4-7.</p> <p>Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 26 lines 1-2.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-11.</p>	

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supplement said first television programming and		Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 451 line 3. Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And the Fig. 1C combining is displayed. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
a second of said processor instructions is capable of presenting at said at least one output device said second portion of said information to at least one of complete and		Column 20 lines 5-7.	... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.	Page 27 lines 7-9 and  Page 451 line 22 to Page 452 line 5.	Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.  Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in

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<p>supplement said first television programming,</p> <p>based on said step of selecting at least one of (i) said at least one first time and (ii) said at least one first location, said first and said second of said processor instructions are</p>	<p>Column 19 lines 63-64.</p>	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 26 lines 1-2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p>
<p>based on said step of selecting at least one of (i) said at least one first time and (ii) said at least one first location, said first and said second of said processor instructions are</p>	<p>Column 19 lines 60-63.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p>	<p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p>	<p>comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p>



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<p>embedded in a portion of said television signal which is outputted at said at least one output device</p> <p>concurrently with said audio and said multiplicity of video images,</p> <p>said first of said processor instructions is embedded in a portion of said television signal which contains television programming that is outputted by said at least one output</p>	<p>Column 19 lines 43-44.</p> <p>Column 4 lines 18-26.</p> <p>See column 19 line 45 through column 20 line 7.</p> <p>Column 19 lines 60-66.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz.</p> <p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first</p>	<p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 21 lines 23-24.</p> <p>Page 14 lines 6-15.</p> <p>See page 21 line 32 through page 27 line 9 and page 451 line 1 through page 452 line 1.</p> <p>Page 25 line 33 to page 26 line 2..</p>	<p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television [signals] may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz.</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p>

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device before			overlay to TV set, <b>202</b> , ...	Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
the end of said first of said plurality of time intervals of specific relevance, and	Column 20 lines 4-5.	... microcomputer, <b>205</b> , ceases transmitting its own graphic to TV set, <b>202</b> , ...		Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
said second of said processor instructions is embedded in a portion of said television signal which contains television programming that is outputted by said at least one output device before the end of	Column 20 lines 5-7.	... and [microcomputer, <b>205</b> ,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.		Page 27 lines 4-7.	... causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified.
				Page 27 lines 7-9 and Page 451 line 22 to Page 452 line 5.	Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.  Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in

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said second of said plurality of time intervals of specific relevance.				<p>unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synchronisms.</p>
66. The method of claim 33, wherein said processor instructions generate information to	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.	<p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE"</p>

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at least one of complete and	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to	<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p>Page 23 line 35 to page 24 line 16.</p> <p>Page 451 lines 7-11.</p>	<p>entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>... the program instruction set in the first</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
<p>supplement said first television programming by processing data, said method further comprising the steps of:</p>	<p>Column 19 lines 46-53.</p>	<p>and to transmit these overlays to TV set, 202,</p> <p>upon command.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... <b>upon command.</b></p>	<p>Page 26 lines 4-8.</p> <p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p>Page 23 line 35 to page 24 line 16.</p>	<p>message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input</p>

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				buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
			Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes a subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
receiving said data;	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7. Applicants teach this as	The second message is of the information associated with the second combining synch

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	Column 19 lines 43-44.  Column 3 lines 6-8.	... instruction signals embedded in the "Wall Street Week" programming transmission.  Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 21 lines 23-24.  Page 14 line 35 to page 15 line 2.	command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.  ... instruction signals embedded in the "Wall Street Week" programming transmission.  Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
communicating said data to said storage device; and	Column 19 lines 62-63  Column 19 lines 20-25.	... and [the instruction signal] is transmitted in the programming transmission.  Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	Page 25 line 34 to page 26 line 1.  Page 436 line 9 to page 437 line 6.	... an instruction signal is ... embedded in the programming transmission, and transmitted.  Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second

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		Reference	Language	Reference	Language
					<p>instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...</p>
				<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p>	
				<p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p>	
storing said data.	Column 19 lines 24-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...			
67. The method of claim 38, wherein said storage device includes at least one of a tape	Column 10 lines 48-52.	Programming can also be manually delivered to said station on prerecorded videotapes and videodiscs. When played on video recorders, 76 and 78, or other similar equipment well	Page 325 lines 5-9.		



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and a disk, said method further comprising the steps of:		similar equipment well known in the art, such prerecorded programming can be transmitted to the field.		known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
communicating a television program, said video information, and said processor instructions to said at least one of a tape and a disk; and	Column 11 lines 61-64.  Column 19 line 53-56.  Column 19 lines 60-63.	... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...  Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.  At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 329 lines 13-20.  Page 25 lines 26-33.  Page 59 lines 29-33.  Page 25 line 34 to page 26 line 1.  Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and	... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.  During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.

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	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
storing said television program, said video information, and processor instructions, and said at least one control instruction, at said at least one of a tape and a disk concurrently.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.

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	Reference	Language	Reference	Language
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 21 lines 23-24.  Page 319 lines 23-30.	... instruction signals embedded in the "Wall Street Week" programming transmission.  One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
	Column 11 lines 39-43.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 9-13.  Page 326 lines 28-30.	... said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  ... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
68. The method of claim 38, further comprising the step of: receiving at least one control signal which operates to	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each

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output said program, said video information, said processor instructions, and said at least one control instruction from said storage device.	Column 11 lines 44-46.	head end facility should <b>transmit each program</b> unit to cable field distribution system, 93.		program unit, when and on which channel or channels and how the station should transmit the unit, ...
	Column 10 lines 49-52.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ....
		When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming ...</b>	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of

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			Page 84 lines 26-28.  Page 28 lines 26-27.  Page 49 lines 26-27.	Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...  ... <b>monitor information that identifies what programming</b> is available, ...  Meter-monitor segments contain meter information and/or monitor information.
69. The method of claim 68, wherein said storage device includes one or more storage locations in a network having  at least one transmitter station and	Column 10 lines 42-43.  Column 10 lines 15-20.	... one or more video recorder/players, <b>76</b> and <b>78</b> , ...  The signal processing apparatus outlined in FIGS. <b>1, A, 2B</b> , and <b>2C</b> , and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 line 35.  Page 324 lines 8-17.	... one or more recorder/players, <b>76</b> and <b>78</b> , ...  The signal processing apparatus outlined in Figs. <b>2, 2A, 2B, 2C</b> , and <b>2D</b> , and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
at least one receiver station, said method further comprising the	Column 17 lines 47-53.	FIG <b>6</b> illustrates one possible configuration of equipment in a home or office or other television and/or radio	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, <b>93</b> , of

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step of:			receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.		the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.
storing said at least one control signal in said network.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.		Page 396 lines 8-10.	Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
				Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
				Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
				Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.

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70. The method of claim 69, wherein said signal includes at least one identifier which identifies at least one of said program and said processor instructions, said method further comprising the step of: adapting said network to compare said at least one control signal to information stored in said storage device.	Column 11 lines 21-24.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ...	Page 326 lines 30-33.	Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming

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				<p>transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
71. The method of claim 69, wherein said at least one control signal includes a transmission schedule, said method further comprising the step of: communicating said transmission schedule to a computer.	Column 11 lines 39-41.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>... with information of the programming schedule, received earlier from input, 74, and/or network, 98, ...</p> <p>... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.</p>
72. The method of claim 38, wherein said video information is to be outputted for a duration of time in said presentation, only a portion of said duration of time containing a time interval of	<p>See column 19 line 45 through column 20 line 7.</p> <p>Column 19 lines 60 to column 20 line 5.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio</p>	<p>See page 21 line 32 through page 27 line 9 and page 451 line 1 through page 452 line 1.</p> <p>Page 25 line 33 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by</p>



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		generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...	<p>Page 26 lines 8-11.</p> <p>Page 451 line 3.</p> <p>Page 26 line 33 to page 27 line 7.</p>	<p>means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified. Thereafter the ...</p> <p>Then the host says, "And here is what your portfolio did."</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and</p>
specific relevance and	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	
said subscriber specific information is to be outputted at said subscriber station at at	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The	Page 26 lines 4-10.	

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least one output device within said time interval of specific relevance, said method further comprising the step of:		viewer then sees a microcomputer generated graphic of his own stocks' performance ...		transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
embedding at least one of said processor instructions within a part of said signal which contains said video information to be outputted in said duration time.	Column 19 lines 43-49.	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>Subsequently, the subscriber might play back the recorded programming and view said programming on TV monitor, 202M, from 10:45 PM to 11:15 PM the same evening. So playing back and transmitting the recorded programming to monitor, 202M, would cause</p>	<p>Page 21 lines 23-24.</p> <p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 24 lines 5-6.</p> <p>Page 320 lines 24-31.</p>	

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				TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131 ...
73. The method of claim 72, further comprises the step of:	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.  Page 25 lines 34-35.  Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 25 line 34 to page 26 line 1.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, ...  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.  ... an instruction signal is ... embedded in the programming transmission, and transmitted.
embedding said at least one of said processor instructions in an audio portion of said program which is inaudible to a listener when said video information is outputted at said at least one output device.	Column 19 lines 62-63  Column 19 lines 43-44.	... and [the instruction signal] is transmitted in the programming transmission.  ... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.  Page 14 lines 11-14.	... instruction signals embedded in the "Wall Street Week" programming transmission.  In television and radio they may appear in a

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	portion of the audio range that is not normally rendered in a form audible to the human ear.	portion of the audio range that is not normally rendered in a form audible to the human ear.
74. The method of claim 72, wherein further comprising the step of:	... instruction signals embedded in the "Wall Street Week" programming transmission.	... instruction signals embedded in the "Wall Street Week" programming transmission.
one of said processor instructions in a portion of said program which is outputted from said storage device while said video information is outputted at said at least one output device.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
Column 19 lines 43-44.	Column 19 lines 60-66.	Page 21 lines 23-24.
		Page 25 line 33 to page 26 line 2..
		Page 37 line 26 to page 38 line 8.
		In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber

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	<p>Column 19 line 53-56.</p> <p>Column 19 lines 67 to column 20 line 2.</p>	<p>Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 26 lines 4-8.</p> <p>Page 25 lines 26-33.</p> <p>Page 451 line 3.</p> <p>Page 26 lines 8-11.</p>	<p>station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.</p> <p>And the Fig. 1C combining is displayed.</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p>
75. The method of claim 74, wherein said video information is communicated in a television signal and said at least one of said processor instructions is embedded in an	Column 19 lines 5-8.	In another example, microcomputer, 205 may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, 202, when it is cablecast.	Page 428 lines 21-26.	The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.

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unviewable and inaudible portion of said television signal.	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 4 lines 18-26.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz.	Page 14 lines 6-15.	In television [signals] may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz.
76. The method of claim 72, further comprising the step of: embedding said at least one of said processor instructions in a portion of said signal which is to be outputted from said storage device before the	Column 19 lines 43-49.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
		When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...	Page 451 lines 6-7.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...
		several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given

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	Column 16 lines 43-47.	<p>These signals instruct microcomputer, 205, ...</p> <p>Subsequently, the person might play the recorded programming on TV set, 132, from 10:45 PM to 11:15 PM the same evening. This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.</p>	<p>Page 24 lines 5-6.</p> <p>Page 320 lines 24-31.</p>	<p>instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...</p> <p>Subsequently, the subscriber might play back the recorded programming and view said programming on TV monitor, 202M, from 10:45 PM to 11:15 PM the same evening. So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131 ...</p>
end of said duration of time.	Column 20 lines 5-7.	<p>... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.</p>	<p>Page 27 lines 7-9 and</p> <p>Page 451 line 22 to Page 452 line 5.</p>	<p>Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.</p> <p>Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it</p>

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				<p>is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p>
77. The method of claim 72, wherein (i) at least a first of said processor instructions is capable of instructing said computer to generate information to complete said video information and	Column 19 lines 45-53.	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.</p> <p>These signals instruct microcomputer, 205,</p>	<p>Page 451 lines 6-7.</p> <p>Page 23 line 35 to page 24 line 4.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 24 lines 5-16.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the</p>



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					<p>contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p> <p>...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving composite video and audio transmissions and for presenting a conventional television video image and audio sound.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p>
	<p>to generate several graphic video overlays,</p> <p>which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to</p>		<p>Page 451 lines 7-11.</p> <p>Page 19 line 29 to page 20 line 20.</p>		
	<p>transmit these overlays to TV set, 202,</p> <p>upon command.</p>		<p>Page 26 lines 4-8.</p> <p>Page 44 lines 14-17.</p>		

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<p>(ii) at least a second of said processor instructions is capable of outputting from said computer a portion of said information to complete said video information, said method further comprising the steps of: selecting at least one of:</p>	<p>Column 19 lines 60 to page 20 line 2.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 26 lines 20-28.</p> <p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-11.</p>	<p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the</p>

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				received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
(1) at least one time at which to communicate said processor instructions; and	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	Page 451 line 3.  Page 451 lines 6-7.  Page 23 line 35 to page 24 line 4.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 24 lines 5-6.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...
			Page 451 lines 7-9.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...
	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is	Page 25 line 33 to page 26 line 2..	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating

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		transmitted in the programing transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	<p>Page 37 line 26 to page 38 line 8.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Page 26 lines 4-8.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>	<p>studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p>
(2) at least one location to which to communicate said processor instructions; and	Column 4 lines 18-22.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.	Page 14 lines 6-11.	<p>In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.</p> <p>Page 14 lines 11-14.</p> <p>In television and radio they may appear in a portion of the audio range that is not normally</p>

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embedding at least one of said at least a first of said processor instructions in said signal based on said step of selecting at least one of said at least one time and said at least one location.	Column 19 lines 43-44.	normally rendered in a form audible to the human ear.		rendered in a form audible to the human ear.
		... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	Page 451 lines 6-7.  Page 23 line 35 to page 24 line 4.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 24 lines 5-6.  Page 451 lines 7-9.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...  ... the program instruction set in the first message of the "Wall Street Week" example

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		Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, <b>203</b> , and transferred via processor, <b>204</b> , to microcomputer, <b>205</b> . This signal instructs microcomputer, <b>205</b> , to transmit the first overlay to TV set, <b>202</b> , ...	<p>Page 25 line 33 to page 26 line 2..</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-8.</p>	<p>instructs microcomputer, 205, to ...</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>
78. The method of claim 77, wherein additional video is	Column 20 lines 5-7.	... and [microcomputer, <b>205</b> ,] prepares to send the next locally generated graphic overlay upon instruction from the	Page 27 lines 7-9 and	Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received	

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received, only a portion of said additional video containing a second time interval of specific relevance, and wherein			originating studio.	Page 451 line 22 to Page 452 line 5.	instructions.  Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.  In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.
said at least said first of said processor instructions is capable of instructing said computer to generate information to complete said additional video, said method further comprising the steps of:	Column 19 lines 45-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.	Page 451 lines 6-7.  Page 23 line 35 to page 24 line 4.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the

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				relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	These signals instruct microcomputer, 205,		Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."
	to generate several graphic video overlays,		Page 45 l lines 7-11.	...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
	which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to		Page 19 line 29 to page 20 line 20.	Microcomputer, 205, is a conventional microcomputer system ... for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. ... TV monitor, 202M, has capacity for receiving



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		transmit these overlays to TV set, 202,  upon command.	Page 26 lines 4-8.  Page 44 lines 14-17.  Page 26 lines 20-28.	composite video and audio transmissions and for presenting a conventional television video image and audio sound.  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.  (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes a subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
communicating said additional video to said storage device; and	Column 20 lines 48-49.	... and thence to printer, 221, for printing.	Page 475 lines 1-2.	Receiving said output information causes printer, 221, to print the information of said specific recipe and list.
	Column 20 lines 5-7.	... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.	Page 27 lines 7-9 and  Page 451 line 22 to Page 452 line 5.	Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.  Furthermore, it is undesirable to separate computer operations merely because they

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	Column 19 lines 20-27.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 436 line 9 to page 437 line 6.	<p>result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically,</p>

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		<p>Then, in a predetermined fashion, microcomputer, 205, may</p> <p>instruct tuner, 214, to switch box, 201, to channel X</p> <p>and may instruct and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...</p>	<p>Page 439 lines 9-15.</p> <p>Page 439 lines 9-15</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>	<p>microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>
storing said additional video at said storage device concurrently with said program, said video information, said	Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	<p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>	<p>... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player,</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
processor instructions, and said at least one control instruction.				217, to record said information of the "Wall Street Week" program.
79. The method of claim 78, wherein said additional video is stored in said storage device in said program immediately following said video information in said program.	Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.  Page 446 lines 18-23.	... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...  ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
80. The method of claim 38, wherein said images are to be outputted at at least one output device at said subscriber station for a period of time,	Column 19 line 53-56.  Column 19 lines 56-59.  See column 19 line 45 through column 20 line 7.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.  The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	Page 25 lines 26-33.  Page 451 lines 25-32.  See page 21 line 32 through page 27 line 9 and page 451 line 1	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.  For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.

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		Reference	Language
only a portion of said period of time including a plurality of time intervals of specific relevance,	Column 19 lines 60 to column 20 line 5.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...	through page 452 line 1.  At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
			Page 25 line 33 to page 26 line 2.  Page 37 line 26 to page 38 line 8.
			Page 26 lines 8-11.
			Page 451 line 3.  Page 26 line 33 to page 27 line 7.

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a first portion of said subscriber specific information is to be outputted at said at least one output device concurrently with at least a first of said at least three video images	Column 19 line 64 to column 20 line 1.	This signal instructs microcomputer, <b>205</b> , to transmit the first overlay to TV set, <b>202</b> , for as long as it receives the same instruction signal from processor, <b>204</b> . The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 4-10.	and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, <b>205</b> , to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified. Thereafter the ...  Said signal instructs microcomputer, <b>205</b> , at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, <b>202M</b> . TV monitor, <b>202M</b> , then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
within a first of said plurality of time intervals of specific relevance,	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
	Column 19 lines 60 to column 20 line 5.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, <b>203</b> , and transferred via processor, <b>204</b> , to microcomputer, <b>205</b> . This signal instructs microcomputer, <b>205</b> , to transmit the first overlay to TV set, <b>202</b> , for as long as it receives the same instruction signal from processor, <b>204</b> . The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the	Page 25 line 33 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, <b>203</b> ; transferred to microcomputer, <b>205</b> ; ...  In each decoder, the controller, <b>39</b> , <b>44</b> , or <b>47</b> , receives detected digital information from the relevant detector or detectors, <b>34</b> , <b>37</b> , <b>38</b> , <b>43</b> , and <b>46</b> . Upon receiving any given instance of signal information, controller, <b>39</b> , <b>44</b> , or <b>47</b> , is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
a second portion of said subscriber specific information is to be outputted at said at least one output device with at least a second of said at least three video images within a second of said plurality of time intervals of specific relevance,	Column 20 lines 5-7.	<p>microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...</p> <p>... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.</p>	<p>Page 26 lines 8-11.</p> <p>Page 451 line 3.</p> <p>Page 26 line 33 to page 27 line 7.</p> <p>Page 27 lines 7-9 and</p> <p>Page 451 line 22 to Page 452 line 5.</p>	<p>art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified. Thereafter the ...</p> <p>Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.</p> <p>Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
<p>said second of said plurality of time intervals of specific relevance being subsequent to</p>	<p>Column 20 lines 5-7.</p>	<p>... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.</p>	<p>Page 27 lines 7-9 and</p> <p>Page 451 line 22 to Page 452 line 5.</p>	<p>overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p> <p>Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.</p> <p>Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it</p>



Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
said first of said plurality of time intervals of specific relevance,	Column 19 lines 60 to column 20 line 5.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...</p>	<p>Page 25 line 33 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 8-11.</p>	<p>is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p>

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a first of said processor instructions is capable of outputting	Column 19 lines 60-63.	<p>Page 451 line 3.</p> <p>Page 26 line 33 to page 27 line 7.</p> <p>Page 59 lines 29-33.</p> <p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7.</p> <p>Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 26 lines 4-10.</p>	<p>And the Fig. 1C combining is displayed.</p> <p>As the program proceeds, in the same fashion a further instruction signal is generated at said studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified. Thereafter the ...</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic</p>
at said at least one output device said first	Column 19 line 64 to column 20 line 1.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p> <p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,</p>	

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portion of said subscriber specific information and			for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance ...		information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the ...
a second of said processor instructions is capable of outputting at said at least one output device	Column 20 lines 5-7.	... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay <b>upon instruction from</b> the originating studio.		Page 27 lines 7-9 and  Page 451 line 22 to Page 452 line 5.	Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.  Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.  In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.
said second portion of	Column 20 lines 5-7.	... and [microcomputer, 205,] prepares to		Page 27 lines 7-9 and	Thereafter the "Wall Street Week" program

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said subscriber specific information, and	send the next locally generated graphic overlay upon instruction from the originating studio.	<p>proceeds, and microcomputer, 205, continues to operate under control of received instructions.</p> <p>Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synchronisms.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and</p>	<p>Page 451 line 22 to Page 452 line 5.</p>	
said first and said second of said processor instructions are	Column 19 lines 60-63.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p>	<p>Page 59 lines 29-33.</p>	
			<p>Page 25 line 34 to page 26 line 1.</p>	

Claim Language	Reference	Language	Reference	Support to instant specification. Language
	<p>Column 20 lines 5-7.</p>	<p>... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.</p>	<p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 27 lines 7-9 and</p> <p>Page 451 line 22 to Page 452 line 5.</p>	<p>transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.</p> <p>Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch</p>

Claim Language	Support to parent application filed November 3, 1981	Support to instant specification
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<p>embedded in a portion of said signal which is outputted from said at least one output device</p>	<p>Column 4 lines 18-26.</p> <p>In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz.</p>	<p>commands.</p> <p>In television [signals] may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz.</p>
<p>at a time when said at least one output device displays at least one of said three video images,</p>	<p>See column 19 line 45 through column 20 line 7.</p>	<p>Page 14 lines 6-15.</p> <p>See page 21 line 32 through page 27 line 9 and page 451 line 1 through page 452 line 1.</p>
<p>said first of said processor instructions is embedded in a portion of said signal which is outputted by said at least one output device before</p>	<p>Column 19 lines 60-66.</p> <p>At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...</p>	<p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the</p>

Claim Language	Support to parent application filed November 3, 1981	Support to instant specification
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	Language	Language
<p>the end of said first of said plurality of time intervals of specific relevance, and</p> <p>said second of said processor instructions being embedded in a portion of said signal which is outputted by said at least one output device before the end of said second of said plurality of time intervals of specific relevance.</p>	<p>Column 20 lines 4-5.</p> <p>Column 20 lines 5-7.</p>	<p>Page 26 lines 4-8.</p> <p>Page 27 lines 4-7.</p> <p>Page 27 lines 7-9 and</p> <p>Page 451 line 22 to Page 452 line 5.</p>
	<p>... microcomputer, <b>205</b>, ceases transmitting its own graphic to TV set, <b>202</b>, ...</p> <p>... and [microcomputer, <b>205</b>,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.</p>	<p>art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, <b>205</b>, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, <b>202M</b>.</p> <p>... causes microcomputer, <b>205</b>, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified.</p> <p>Thereafter the "Wall Street Week" program proceeds, and microcomputer, <b>205</b>, continues to operate under control of received instructions.</p> <p>Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these</p>

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				<p>portions. To require that the values of the portions be recalculated for subsequent overlays would be inefficient.</p> <p>In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.</p>
81. The method of claim 38, wherein said processor instructions generate at least a portion of said subscriber specific information	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	<p>Page 23 line 35 to page 24 line 16.</p> <p>Page 44 lines 14-17.</p>	<p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p>



Claim Language	Support to parent application filed November 3, 1981	Language	Reference	Support to instant specification.	Language
by processing data, said method further comprising the steps of:	<p>Column 3 lines 6-8.</p> <p>Column 19 lines 46-53.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.</p>	<p>Page 26 lines 20-28.</p> <p>Page 14 line 35 to page 15 line 2.</p> <p>Page 23 line 35 to page 24 line 16.</p> <p>Page 44 lines 14-17.</p>	<p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal</p>	

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				information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes a subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
receiving said data;	Column 19 lines 60-62.	At this point, an instruction signal is <b>generated</b> in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is <b>generated</b> at said program originating studio, ...
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
	Column 19 lines 43-44.	... instruction signals embedded in the	Page 21 lines 23-24.	... instruction signals embedded in the "Wall

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	Column 3 lines 6-8.	<p>"Wall Street Week" programming transmission.</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>	Page 14 line 35 to page 15 line 2.	<p>Street Week" programming transmission.</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>
communicating said data to said storage device; and	Column 19 lines 62-63	<p>... and [the instruction signal] is transmitted in the programming transmission.</p>	Page 25 line 34 to page 26 line 1.	<p>... an instruction signal is ... embedded in the programming transmission, and transmitted.</p>
	Column 19 lines 20-25.	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...</p>	Page 436 line 9 to page 437 line 6.	<p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i></p> <p>Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined</p>

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			Page 439 lines 9-15.	fashion, to prepare particular apparatus ... ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	
storing said data.	Column 19 lines 24-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...	Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...
			Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...
82. The method of claim 33, further comprising the steps of: receiving first data;	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7.	The second message is of the information

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	<p>Column 19 lines 46-53.</p>	<p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... <b>upon command.</b></p>	<p>Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 23 line 35 to page 24 line 16.</p>	<p>associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a</p>	
			<p>Page 44 lines 14-17.</p>		
			<p>Page 26 lines 20-28.</p>		

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communicating said first data to said storage device; and		Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.		combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
		Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 25 line 34 to page 26 line 1.  Page 324 lines 23-31.	... an instruction signal is ... embedded in the programming transmission, and transmitted.  The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
		Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
storing said first data.		Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
83. The method of claim 82, wherein said		See column 19 line 45 through column 20 line		See page 21 line 32 through page 27 line 9	

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<p>first television programming is to be outputted for a duration of time in said one of a television and a media presentation,</p> <p>only a portion of said duration of time containing a time interval of</p>	7.	<p>Column 19 lines 60 to column 20 line 5.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic. When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, ...</p>	<p>and page 451 line 1 through page 452 line 1.</p>
			<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p>	
			<p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p>	
			<p>As the program proceeds, in the same fashion a further instruction signal is generated at said</p>	

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specific relevance,	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	studio; transmitted; detected; inputted from decoder, 203, to microcomputer, 205; and executed as "GRAPHICS OFF." Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head. Simultaneously, the GRAPHICS OFF command causes microcomputer, 205, to cease overlaying the graphic information onto the received composite video and to commence transmitting the received composite video transmission unmodified. Thereafter the ...
said first data are to be processed	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Then the host says, "And here is what your portfolio did."  Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
to generate second data, and said second data are to serve as	Column 12 lines 38-41.	... signal generators, 82, 86, and 90, also well known in the art, that controller/computer, 73, can instruct to add signals to programming as required.	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.
a basis for selecting	Column 19 lines 35-41.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its	Page 449 lines 13-35.	Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that



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said information to at least one of complete	Column 19 line 64 to column 20 line 2.	stored portfolio.	Page 26 lines 4-11.	<p>apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&amp;T news item and caused selected stations to select and process, in their specific fashions, the information of said item.) Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.</p> <p>... "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is</p>
and supplement said first television programming, said	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by	Page 451 line 3.  Page 23 line 35 to page 24 line 16.	

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method further comprising the step of:		decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.		detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")	
			Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a	
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)	
including in said processor instructions	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates	

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at least a first timing control instruction			originating the programming and is transmitted in the programming transmission.	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 330 lines 5-15.</p>	<p>said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>
which is capable of causing a computer	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.			<p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p>
to process at least one of said first data at a specific time.	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to		Page 23 line 35 to page 24 line 16.	<p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words</p>

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		generate several graphic video overlays, ...	Page 451 lines 7-11.	which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
		and to transmit these overlays to TV set, 202,	Page 26 lines 4-8.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		upon command.	Page 44 lines 14-17.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
			Page 26 lines 20-28.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.
				(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...
84. The method of claim 83, wherein said specific time is a scheduled time, said method further	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information,

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comprising the step of	when and on what channel or channels the head end facility should transmit the programming.		<p>received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
receiving and storing at least a portion of a schedule containing said specific time.	<p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, ...</p> <p>Column 11 lines 38-41.</p>	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a</p>

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			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 326 lines 28-30.</p> <p>Page 326 lines 30-33.</p> <p>Page 326 line 33 to page 327 line 2.</p>	<p>predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.</p> <p>Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.</p> <p>Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit, ...</p>
85. The method of claim 83, wherein said at least a first timing control instruction is	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	<p>Page 435 lines 16-18.</p> <p>Page 248 lines 22-26 from example #5.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...</p> <p>Via a conventional multi-channel cable transmission, in a fashion well known in the</p>

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			<p>Page 250 lines 13-16 from example #5.</p> <p>Page 252 lines 15-35 from example #5.</p> <p>Page 267 lines 20-28 from example #5.</p>	<p>art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "<b>program unit identification code</b>" and subject matter information of said first command and the <b>channel mark of cable channel 13</b> ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new</p>

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	Reference	Language	Reference	Language
capable of causing	Column 19 lines 18-20.	[processor or monitor, 12, reacts] ... in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14.	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 268 line 28 to page 269 line 12 from example #5.</p>	<p>programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In example #5, controller, 12, is preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. ...</p> <p>Automatically, control processor, 12J, transfers to buffer/comparator, 14, via matrix switch, 12 I, header information that identifies a transmission of monitor information of available programming then all of the information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred--together with its newly added header</p>



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said computer to	Column 19 line 64 to column 20 line 2.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 4-11.	information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).)  ... "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.	
select said at least one of said first data from at least one of a broadcast and a cablecast transmission	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 451 line 3.  Page 436 line 9 to page 437 line 6.	And the Fig. 1C combining is displayed.  Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...  Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.  Determining a match causes microcomputer, 205, automatically to input	
		Then, in a predetermined fashion, microcomputer, 205, may			

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				said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ... ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ... ...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ... ...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program. ...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ... ...and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance
			Page 439 lines 9-15.	
	instruct tuner, 214, to switch box, 201, to channel X		Page 295 lines 6-8.	
	and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"		Page 445 lines 24-27.	
	and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on		Page 446 lines 18-23.	
	and tuner, 215, to tune appropriately to "Wall Street Week."		Page 445 line 24 to page 446 line 1.  Page 445 line 35 to page 446 line 1.  Page 446 lines 17-21.	

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	Reference	Language	Reference	Language
	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... <b>upon command.</b>	Page 23 line 35 to page 24 line 16.	with said audio ...  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a  (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing
			Page 44 lines 14-17.	
			Page 26 lines 20-28.	

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before said first television programming is outputted from said storage device.		Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	loading and running information for a particular combining.)  During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
		Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
86. The method of claim 83, wherein said at least said a timing control instruction is capable of causing		Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating

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<p>said computer to process said first data and generate at least one of said second data</p> <p>before the portion of said television signal containing the end of said time interval of</p>	<p>Column 19 line 64 to column 20 line 2.</p> <p>Column 20 lines 2-3.</p>	<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p> <p>When the two studio generated graphics are no longer displayed, ...</p>	<p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p> <p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p> <p>Page 27 lines 1-3.</p>	<p>system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchronizing command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchronizing command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p> <p>... "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head.</p>

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specific relevance					
is outputted from said storage device.	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.		Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
87. The method of claim 83, further comprising the step of: including in said processor instructions at least a second timing control instruction	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.		Page 435 lines 16-18.  Page 248 lines 22-26 from example #5.  Page 250 lines 13-16 from example #5.  Page 252 lines 15-35 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...  Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.  Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...  Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter-monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment)

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	Reference	Language	Reference	Language
			<p>Page 267 lines 20-28 from example #5.</p>	<p>then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>
which is capable of	Column 19 lines 18-20.	[processor or monitor, 12, reacts] ... in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14.	<p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>

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<p>delivering to said at least one output device during said time interval of specific relevance said information to at least one of complete and supplement said first television programming.</p>	<p>Column 19 lines 20-29.</p>	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 268 line 28 to page 269 line 12 from example #5.</p>	<p>In example #5, controller, 12, is preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. ... Automatically, control processor, 12J, transfers to buffer/comparator, 14, via matrix switch, 12 I, header information that identifies a transmission of monitor information of available programming then all of the information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred--together with its newly added header information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).)</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second</p>	



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Reference	Language	Reference	Language
	<p>Then, in a predetermined fashion, microcomputer, <b>205</b>, may</p> <p>instruct tuner, <b>214</b>, to switch box, <b>201</b>, to channel X</p> <p>and may instruct control system, <b>220</b>, to turn video recorder, <b>217</b>, on and record "Wall Street Week,"</p> <p>and also microcomputer, <b>205</b>, may instruct switch, <b>216</b>, to turn TV set, <b>202</b>, on</p> <p>and tuner, <b>215</b>, to tune appropriately to "Wall Street Week."</p>	<p>instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW -on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>...instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>...and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and</p>	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>

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	Reference	Language	Reference	Language
				audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
88. The method of claim 83, further comprising the step of: including in said processor instructions at least one timing control instruction which is	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
capable of delivering said first television	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming	<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned</p>

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programming to said at least one output device.		<p>schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.</p>		<p>dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p>
			Page 28 lines 26-27.	<p>... monitor information that identifies what programming is available, ...</p>
			Page 49 lines 26-27.	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
Column 11 lines 50-57.		<p>... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87,</p> <p>controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.</p>	Page 328 line 22 to page 329 line 1.	<p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel</p>

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	Column 12 lines 45-46.	Beyond channel combining system and multiplexer, <b>92</b> , amplifier, <b>94</b> , transmits programming ...	Page 337 lines 3-10.	modulator, <b>87</b> . In its preprogrammed fashion, so determining causes computer, <b>73</b> , to cause matrix switch, <b>75</b> , to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, <b>63</b> ) to matrix switch, <b>75</b> , from TV receiver, <b>53</b> , to that output of matrix switch, <b>75</b> , that outputs to modulator, <b>87</b> .  In field distribution system, <b>93</b> , amplifier, <b>94</b> , inputs ... all programming transmitted by the cable television system head end station...
89. The method of claim 38, further comprising the steps of: receiving first data;	Column 19 lines 60-62.	At this point, an instruction signal is <b>generated</b> in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is <b>generated</b> at said program originating studio, ...
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, <b>203</b> , and transferred to microcomputer, <b>205</b> . These signals instruct	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, <b>203</b> , and inputted to

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communicating said first data to said storage device; and			microcomputer, 205, ... upon command.		microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
				Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
				Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.		... an instruction signal is ... embedded in the programming transmission, and transmitted.

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		Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
		Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
	storing said first data.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
90. The method of claim 89, wherein said program includes television programming to be outputted for a duration of time in said presentation, only a portion of said duration of time containing a time interval of specific relevance,		See column 19 line 45 through column 20 line 7.		See page 21 line 32 through page 27 line 9 and page 451 line 1 through page 452 line 1.	
said first data are to be processed		Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ...

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<p>to generate second data, and said second data are to serve as</p> <p>a basis for selecting</p>	<p>Column 12 lines 38-41.</p> <p>Column 19 lines 35-41.</p>	<p>it contains.</p> <p>... signal generators, <b>82, 86,</b> and <b>90</b>, also well known in the art, that controller/computer, <b>73</b>, can instruct to add signals to programming as required.</p> <p>Each weekday, microcomputer, <b>205</b>, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio.</p>	<p>Page 354 lines 21-24.</p> <p>Page 449 lines 13-35.</p>	<p>Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p> <p>... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.</p> <p>Each weekday after 4:30 PM, a remote stock-price-data- transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&amp;T news item and caused selected stations to select and process, in their specific fashions, the information of said item.) Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or</p>

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said subscriber specific information, said method further comprising the step of:	Column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 8-11.	stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.  TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...	
including in said processor instructions at least a first timing control instruction	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.  The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...	
which is capable of causing a computer	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said	



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to process at least one of said first data at a specific time.	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to	Page 23 line 35 to page 24 line 16.	SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")  ... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.  (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes a subscriber station apparatus to execute a combining operation in synchronization is
		generate several graphic video overlays, ...	Page 451 lines 7-11.	
		and to transmit these overlays to TV set, 202,	Page 26 lines 4-8.	
		upon command.	Page 44 lines 14-17.	
			Page 26 lines 20-28.	

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					called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...
91. The method of claim 90, wherein said specific time is a scheduled time, said method further comprising the step of	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....  ... monitor information that identifies what programming is available, ...  Meter-monitor segments contain meter information and/or monitor information.  Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,	
receiving and storing at least a portion of a schedule containing	Column 11 lines 38-41.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input,	Page 84 lines 26-28.  Page 28 lines 26-27.  Page 49 lines 26-27.  Page 327 line 35 to page 328 line 13.		

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said specific time.		74, and/or from a remote site via network, 98, ...		<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.</p> <p>Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.</p> <p>Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
			Page 326 lines 28-30.	
			Page 326 lines 30-33.	
	Column 11 lines 21-24.	Such input information might include the cable television system's complete programming schedule, with each discrete unit of programming identified with a unique program code ...		
	Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each	Page 326 line 33 to page 327 line 2.	

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		program unit to cable field distribution system, 93.		channels and how the station should transmit the unit, ...
92. The method of claim 90, wherein said at least first timing control instruction is	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	<p>Page 435 lines 16-18.</p> <p>Page 248 lines 22-26 from example #5.</p> <p>Page 250 lines 13-16 from example #5.</p> <p>Page 252 lines 15-35 from example #5.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...</p> <p>Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that includes the "<b>program unit identification code</b>" and subject matter information of said first command and the <b>channel mark of cable channel 13</b> ... (Said message whose</p>

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capable of causing	Column 19 lines 18-20.	[processor or monitor, 12, reacts] ... in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14.	<p>Page 267 lines 20-28 from example #5.</p> <p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p> <p>Page 268 line 28 to page 269 line 12 from example #5.</p>	<p>transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In example #5, controller, 12, is preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process</p>

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<p>said computer to</p> <p>select said at least one of said first data from at least one of a broadcast and a cablecast transmission</p>	<p>Column 19 line 64 to column 20 line 2.</p> <p>Column 19 lines 20-29.</p>	<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p> <p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p> <p>Page 436 line 9 to page 437 line 6.</p>	<p>the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. ... Automatically, control processor, 12J, transfers to buffer/comparator, 14, via matrix switch, 12 I, header information that identifies a transmission of monitor information of available programming then all of the information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred--together with its newly added header information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).)</p> <p>... "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205,</p>

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		<p>Then, in a predetermined fashion, microcomputer, 205, may</p> <p>instruct tuner, 214, to switch box, 201, to channel X</p> <p>and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"</p>	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>	<p>contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its</p> <p>...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>...instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a</p>

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	<p>and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on</p> <p>and tuner, 215, to tune appropriately to "Wall Street Week."</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.</p> <p>Column 19 lines 46-53.</p>	<p>Page 445 line 24 to page 446 line 1.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p> <p>Page 23 line 35 to page 24 line 16.</p>
		<p>particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p> <p>...and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always</p>



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before said television programming is outputted from said storage device.	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 44 lines 14-17.  Page 26 lines 20-28.	constituted of at least a  (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)  During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.  When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	
	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is

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control instruction is capable of causing		decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.		detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")	
		Page 44 lines 14-17.		A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a	
		Page 26 lines 20-28.		(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)	
said computer to process said first data	Column 19 line 64 to column 20 line 2.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,		Page 26 lines 4-11. ... "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey	

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and generate at least one of said second data			for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.	
before a portion of a television signal containing the end of said time interval of specific relevance	Column 20 lines 2-3.		When the two studio generated graphics are no longer displayed, ...	Page 451 line 3.	And the Fig. 1C combining is displayed.
is outputted from said storage device.	Column 10 lines 49-52.		When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 27 lines 1-3.  Page 325 lines 6-9.	Then said studio ceases transmitting the graphic image, and transmits another image such as the host's talking head.  When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
94. The method of claim 90, further comprising the step of: including in said processor instructions and said at least one control instruction at least a second timing control instruction	Column 19 lines 14-15.		... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18.  Page 248 lines 22-26 from example #5.  Page 250 lines 13-16 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...  Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.  Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week"

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				<p>program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>	<p>Page 252 lines 15-35 from example #5.</p> <p>Page 267 lines 20-28 from example #5.</p>	

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which is capable of	Column 19 lines 18-20.	[processor or monitor, 12, reacts] ... in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14.	Page 435 lines 16-18.  Page 267 lines 20-28 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...  All eight of said messages are commands. The 1st- and 3rd-new-radio-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)  In example #5, controller, 12, is preprogrammed to process monitor information, and completing the controlled functions invoked by any given message causes controller, 12, automatically to process the information of said message as monitor information, in the fashion of controller, 39, of decoder, 203, in example #3. ... Automatically, control processor, 12J, transfers to buffer/comparator, 14, via matrix switch, 12 I, header information that identifies a transmission of monitor information of a available programming then all of the information that is recorded at said SPAM-input-signal memory. (In each example #5 case, the information that is transferred--together with its newly added header information--continues to be called by its previously assigned name; for example, the 1st-old-radio-program-message (#5).)
delivering to at least one output device at	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer,	Page 268 line 28 to page 269 line 12 from example #5.  Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The

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<p>said subscriber station, during said time interval of specific relevance, information to at least one of complete and supplement said television programming.</p>	<p><b>205</b>, determines that "Wall Street Week" is being televised on channel X.</p>	<p>Then, in a predetermined fashion, microcomputer, <b>205</b>, may</p>	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p>	<p>information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p>	

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		turn video recorder, <b>217</b> , on and record "Wall Street Week."	Page 446 lines 18-23.	...controller, <b>20</b> , ... causes recorder/player, <b>217</b> , to record said information of the "Wall Street Week" program.
		and also microcomputer, <b>205</b> , may instruct switch, <b>216</b> , to turn TV set, <b>202</b> , on	Page 445 line 24 to page 446 line 1.	...instructions causes controller, <b>20</b> , to switch power on to monitor, <b>202M</b> , ... Automatically, controller, <b>20</b> , inputs a particular instruction to decoder, <b>145</b> , via said communications link, that causes decoder, <b>145</b> , to switch power on to monitor, <b>202M</b> , ...
		and tuner, <b>215</b> , to tune appropriately to "Wall Street Week."	Page 445 line 35 to page 446 line 1. Page 446 lines 17-21.	...and to tune monitor, <b>202M</b> , in a predetermined fashion. In so doing, controller, <b>20</b> , causes monitor, <b>202M</b> , to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
95. The method of claim 90, further comprising the step of: including in said processor instructions at least one timing control instruction which is	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, <b>73</b> , monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, <b>71</b> . By means of the SPAM message information, with source mark information, received from code reader, <b>72</b> , computer, <b>73</b> , determines what specific program unit has been received by each receiver, <b>53</b> through <b>62</b> , and is passing in line, via each distribution amplifier, <b>63</b> through <b>70</b> , to matrix switch, <b>75</b> . By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, <b>74</b> ,

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				and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...  ... <b>monitor information that identifies what programming</b> is available, ...  Meter-monitor segments contain meter information and/or monitor information.
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
capable of delivering said television programming to said at least one output device.	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.  By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming
			Page 84 lines 26-28.	



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		Column 11 lines 50-57.	... if controller/computer, 73, determines that programing incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 328 line 22 to page 329 line 1.</p>	<p>transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.</p> <p>In field distribution system, 93, amplifier, 94, inputs ... all programming transmitted by the cable television system head end station...</p>
		Column 12 lines 45-46.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming ...	Page 337 lines 3-10.	
<b><u>First Embodiment:</u></b>					
96. A method of processing signals to control a multimedia presentation comprising the steps of:	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission	

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		consists of a series or stream of sequentially transmitted SPAM messages.
		At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
		The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
		Fig. 7C is a block diagram of signal processing apparatus and methods selecting and receivable information and programming and controlling combined medium, multi-channel presentations.
		(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)
		Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.
		But the combining of Fig. 1C is just part of

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					a larger process. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
receiving a television signal containing television programming and	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a <b>studio generated</b> graphic is pictured.		Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a <b>studio generated</b> graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
communicating said television signal and said television programming to at least one storage device,	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.		Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.		Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 20-27.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.		Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned

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				determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.  Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.  Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, ...  ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;  ...  ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;  ...  Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...  ...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,
	Then, in a predetermined fashion, microcomputer, <b>205</b> , may		Page 439 lines 9-15.	
			Page 439 lines 9-15	
	instruct tuner, <b>214</b> , to switch box, <b>201</b> , to channel <b>X</b>		Page 295 lines 6-8.	
			Page 445 lines 24-27.	

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said television programming comprising of audio and a plurality of video images to be displayed in at least one predetermined sequence, said at least one predetermined sequence	Column 19 line 53-56.	and may instruct and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...  Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	...  ...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.  During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 56-59.	The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.
including full motion video;	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.  In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week"

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receiving at least one first instruction signal which is capable of	Column 19 lines 60-62.	At this point, an instruction signal is <b>generated</b> in the television studio originating the programming ...	Page 59 lines 29-33.  Page 25 lines 34-35.  Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	program, to display the video image of said information, and to emit sound in accordance with said audio ...  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is <b>generated</b> at said program originating studio, ...  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
instructing a computer to conduct a procedure of	Column 19 lines 60-62.	At this point, an instruction signal is <b>generated</b> in the television studio originating the programming ...	Page 59 lines 29-33.  Page 25 lines 34-35.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is <b>generated</b> at said program originating studio, ...  The second message is of the information associated with the second combining synch command. Said second command has a "00"

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at least one of inputting and				instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to		Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
		generate several graphic video overlays, ...		Page 451 lines 7-11.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		and to transmit these overlays to TV set, 202,		Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
		upon command.		Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.
				Page 26 lines 20-28.	(Hereinafter, an instruction such as the above

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<p>responding to a subscriber reaction to said television programming;</p>	<p><i>In General</i> Column 17 lines 39- 44.</p>	<p>Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are <b>addressed</b>, and transfer such signals to such equipment as <b>directed</b>.</p>	<p><i>In General</i> Page 15 lines 16-23.</p>	<p>signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchronizing command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchronizing command ...</p> <p>The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...</p> <p>... identifies the particular apparatus to which said signals are <b>addressed</b>, and outputs said signals to said apparatus ...</p> <p>A command is an instance of signal information that is <b>addressed</b> to particular subscriber station apparatus and that ...</p> <p>Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is <b>addressed</b> to URS microcomputers, 205, and to transfer said message to microcomputer, 205.</p> <p>Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to ...</p> <p>... the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which...</p>	
	<p><i>More particularly,</i> Column 18 lines 1-2.</p>	<p>Decoder, 203, transfers all received signals to processor or monitor, 204, ...</p>	<p>Page 34 lines 24-26.</p> <p>Page 44 lines 14-15.</p> <p>Page 95 lines 18-21.</p> <p><i>More particularly,</i> Page 400 lines 3-4</p> <p>Page 35 lines 11-15</p>		



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	Column 18 lines 2-4	[processor or monitor, 204] ... identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.	Page 35 lines 24-27  Page 35 lines 28-31  Page 400 lines 6 - 18 See Fig. 3A regarding the composition of controller 39	... said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.  ... separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39.  Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to locate the Weather-Bulletin-125 identification information of said message; to determine that said information does not match particular information at particular last-weather-bulletin-identification RAM associated with said control processor, 39J; to input the information of the information segment of said message to the CPU of microcomputer, 205; to retain information of said Weather-Bulletin-125 identification information at said last-weather-bulletin-identification RAM; and to cause said CPU to execute the information so inputted as a machine language job.  Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ...
			Page 37 line 28 to page 38 line 8	

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		<i>Specifically</i> Column 19 lines 63-66.	This signal is identified by decoder, 203, and <b>transferred</b> via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	<i>Specifically</i> Page 26 lines 1-8.	to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.  Said signal is identified by decoder, 203; <b>transferred</b> to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
				Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be <b>transferred</b> ; and to transfer said signals to said apparatus ...
selecting at least one of:	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.		... an instruction signal is ... embedded in the programming transmission, and transmitted.
(1) at least one time at which to communicate said first instruction signal; and	Column 19 lines 60-62.	<b>At this point</b> , an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.		A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission

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			<p>consists of a series or stream of sequentially transmitted SPAM messages.</p> <p><b>At this point</b>, an instruction signal is generated at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>... an instruction signal is ... embedded in the programming transmission, and transmitted.</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.</p> <p>In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.</p> <p>... an instruction signal is ... embedded in the programming transmission, and transmitted.</p>	
	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	<p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 25 line 34 to page 26 line 1.</p>	
(2) at least one first location to which to communicate said first instruction signal;	<p>Column 19 lines 43-44.</p> <p><i>For example,</i> Column 4 lines 18-22.</p> <p><i>Or</i> Column 4 lines 22-25.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.</p> <p>In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.</p>	<p>Page 21 lines 23-24.</p> <p><i>For example,</i> Page 14 lines 6-11.</p> <p><i>Or</i> Page 14 lines 11-14.</p>	
communicating said at least one first instruction signal (i) at said at least one	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	

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selected time and (ii) to said selected at least one first location, based on said step of selecting; and	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
	Column 19 lines 43-44.  Column 19 lines 20-27.	... instruction signals embedded in the "Wall Street Week" programming transmission.  Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 21 lines 23-24.  Page 436 line 9 to page 437 line 6.	... instruction signals embedded in the "Wall Street Week" programming transmission.  Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said

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	<p>Then, in a predetermined fashion, microcomputer, 205, may</p>	<p>microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>	<p>Page 439 lines 9-15.</p> <p>Page 439 lines 9-15</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>

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<p>storing said television signal, said programming, and said at least one first instruction signal at said at least one storage device concurrently.</p>	Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.	... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...	
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 446 lines 18-23.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.	
	Column 16 lines 25-32.	One particular advantage of these methods ... is that, by locating the ... signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 21 lines 23-24.  Page 319 lines 23-30.	... instruction signals embedded in the "Wall Street Week" programming transmission.  One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.	
<u>Second Embodiment:</u>					
<p>96. A method of processing signals to control a multimedia presentation comprising the steps of:</p>	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.	
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.	
			Page 90 lines 4-7.	The second message is of the information	

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	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 18 lines 24-27.  page 450 line 27 to page 451 line 11.	<p>associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>

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receiving a television signal containing television programming and	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a <b>studio generated</b> graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a <b>studio generated</b> graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
communicating said television signal and said television programming to at least one storage device,	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.



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said television programming comprising of audio and a plurality of video images to be displayed in at least one predetermined sequence, said at least one predetermined sequence	Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 lines 56-59.	The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	Page 451 lines 25-32.	For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.
including full motion video;	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
			Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and

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receiving at least one first instruction signal which is capable of	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, ...  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
instructing a computer to conduct a procedure of	Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 25 lines 34-35.  Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
at least one of inputting and	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital

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responding to a subscriber reaction to said television	<i>In General</i> Column 17 lines 39- 44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more	<i>In General</i> Page 15 lines 16-23.	signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")  ... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.  (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...  The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or
		generate several graphic video overlays, ...  and to transmit these overlays to TV set, 202,  upon command.	Page 451 lines 7-11.  Page 26 lines 4-8.  Page 44 lines 14-17.  Page 26 lines 20-28.	

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programming;	inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are <b>addressed</b> , and transfer such signals to such equipment as <b>directed</b> .		series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...
			... identifies the particular apparatus to which said signals are <b>addressed</b> , and outputs said signals to said apparatus ...
			A command is an instance of signal information that is <b>addressed</b> to particular subscriber station apparatus and that ...
			Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is <b>addressed</b> to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
	<i>More particularly,</i> Column 18 lines 1-2.	<i>More particularly</i> Page 400 lines 3-4  Page 35 lines 11-15	Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to ...  ... the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which...
		Page 35 lines 24-27	... said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.
		Page 35 lines 28-31	... separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39.

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	Column 18 lines 2-4	[processor or monitor, 204] ... identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.		Page 400 lines 6 - 18 See Fig. 3A regarding the composition of controller 39	Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to locate the Weather-Bulletin-125 identification information of said message; to determine that said information does not match particular information at particular last-weather-bulletin-identification RAM associated with said control processor, 39J; to input the information of the information segment of said message to the CPU of microcomputer, 205; to retain information of said Weather-Bulletin-125 identification information at said last-weather-bulletin-identification RAM; and to cause said CPU to execute the information so inputted as a machine language job.
				Page 37 line 28 to page 38 line 8	Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	<i>Specifically</i> Column 19 lines 63-66.	This signal is identified by decoder, 203, and <b>transferred</b> via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,		<i>Specifically</i> Page 26 lines 1-8.	Said signal is identified by decoder, 203; <b>transferred</b> to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the

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				graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
selecting at least one of:	Column 19 lines 62-63  Column 19 lines 8-12.	... and [the instruction signal] is transmitted in the programming transmission.  Microcomputer, 205, is preinformed of the time of cablecasting. When that time comes, microcomputer, 205, receives no program identification signals whatever from TV signal decoder, 203, which indicates that the set, 202, is not on.	Page 37 line 26 to page 38 line 8.  Page 25 line 34 to page 26 line 1.  Page 437 lines 1-3.  Page 444 lines 33-34.	... an instruction signal is ... embedded in the programming transmission, and transmitted.  Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.  ... decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by ...
(1) at least one time at which to communicate said first instruction signal; and	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...

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				Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
(2) at least one first location to which to communicate said first instruction signal;	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...
communicating said at least one first instruction signal at least one of (i) at said at least one selected time and (ii) to said selected at least one first location, based on said step of selecting; and	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said

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	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	selected recorder, 76 or 78. ... instruction signals embedded in the "Wall Street Week" programming transmission.
storing said television signal, said television programming, and said at least one first instruction signal at said at least one storage device	Column 11 lines 64-65.  Column 19 line 53-56.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.  Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 329 line 15-16.  Page 25 lines 26-33.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...  During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
concurrently.	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later



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				time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
97. The method of claim 96, further comprising at least one of the steps of: embedding said first instruction signal in said television signal;	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
embedding at least one of a first code and a first datum in said television programming that	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
				<p>dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or information <b>message unit</b>. Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...</p> <p>Via a conventional multi-channel cable</p>
	Page 84 lines 26-28.			
	Page 28 lines 26-27.			
	Page 49 lines 26-27.			
	Page 14 lines 27-29.			
	Page 435 lines 16-18.			
	Page 248 lines 22-26			

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			<p>from example #5.</p> <p>Page 250 lines 13-16 from example #5.</p> <p>Page 252 lines 15-35 from example #5.</p> <p>Page 267 lines 20-28 from example #5.</p>	<p>transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205.</p>

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<p>enables said computer to locate at least one of a second code and a second datum ;</p>	<p>Column 19 lines 20-25.</p>	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...</p>	<p>Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said</p>
		<p>Page 436 line 9 to page 437 line 6.</p>	<p>Page 439 lines 9-15.</p>

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	Reference	Language	Reference	Language
				<p>station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p>
communicating a program unit identification code to said storage device	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	<p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 329 line 2-20.</p>	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,</p>
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,

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and storing said program unit identification code at a storage location associated with said television programming;				<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p>
			Page 28 lines 26-27.	<p>... <b>monitor information that identifies what programming</b> is available, ...</p>
	Column 2 lines 63-66.	(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or information <b>message unit</b> . Examples of signal units are a unique code identifying a programming unit, or a ...	Page 49 lines 26-27.	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
	Column 11 lines 64-65.	... instructs the recorder/player, <b>76 or 78</b> , to turn on and record the programming.	Page 14 lines 27-29.  Page 329 line 15-16.	<p>(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or information <b>message unit</b>. Examples of signal units are a unique code identifying a programming unit, or a ...</p> <p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p>

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
		Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
communicating to and storing at said storage device information		Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
		Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,

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to evidence at least one of	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.		<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.</p> <p>Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
			Page 315 lines 20-24.	
			Page 44 lines 26-32.	



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<p>an availability, use, and usage of at least one of said television programming, said first instruction signal, and executable code at a subscriber station;</p>	<p>Column 18 lines 29-41.</p>	<p>FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service.</p> <p>TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned.</p>	<p>Page 49 line 26 to page 50 line 20.</p>	<p>assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.</p> <p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <ul style="list-style-type: none"> <li>... unique codes for programming; ... and</li> <li>unique codes that identify the sources and suppliers of computer data.</li> </ul> <p>... <b>monitor information that identifies what programming</b> is available, ...</p>
			<p>Page 28 lines 26-27.</p>	<p>In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...</p> <p>... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.</p>
			<p>Page 411 lines 10-11.</p>	<p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ...</p> <p>Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above escribed fashion.</p>
			<p>Page 88 lines 19-22.</p>	<p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ...</p> <p>Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above escribed fashion.</p>
			<p>Page 408 lines 18-29.</p>	<p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said</p>
			<p>Page 414 lines 13-27.</p>	<p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said</p>

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			<p>Page 15 lines 16-22.</p> <p>Page 36 lines 32-33.</p> <p>Page 38 lines 11-14.</p> <p>Page 411 lines 10-15.</p> <p>Page 418 line 23 to page 419 line 15.</p>	<p>radio transmission ...</p> <p>Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.</p> <p>Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p>

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		for recording and subsequent transmission to a remote data collection site.	Page 411 line 28 to page 412 line 2.	<p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in ...</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to said buffer/comparator, 14, is called, hereinafter, the "1<sup>st</sup> monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and</p>		
	Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming		Page 173 line 30 to page 174 line 23 from example #3.		Page 419 lines 4-15.	
			Page 28 lines 25-35.			

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			availability to record and transmit to a remote site.		how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.  Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...
storing at said storage device	Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...		Page 397 lines 17-20.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.  Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...  ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;  ...  Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...  ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;  ...  ... instructions causes controller, 20, ...; to
a second instruction signal which is effective at a subscriber station to generate output information content to be associated with said television programming;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.		Page 439 lines 9-15.  Page 295 lines 6-8.  Page 439 lines 9-15.  Page 445 lines 24-27.	

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Reference	Reference	Reference	Language
		<p>switch power on to video recorder/player, 217,....</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p>	<p>Page 446 lines 18-23.</p> <p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p>

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storing at said storage device a second instruction signal which is effective at a subscriber station		Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	And the Fig. 1C combining is displayed.
		Column 10 line 64 to Column 11 line 1.	At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93.	Page 325 lines 17-24.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular programmed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
			In line between each of the aforementioned receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix		

Claim Language	Reference	Language	Reference	Support to instant specification. Language
to display at least one of	Column 19 lines 20-29.	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p> <p>Then, in a predetermined fashion, microcomputer, 205, may</p>	<p>Page 324 line 31 to page 325 line 2.</p> <p>Page 436 line 9 to page 437 line 6.</p>	<p>switch, 75.</p> <p>Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, ...</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined</p>

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a combined and	Column 19 lines 67 to column 20 line 2.		Page 439 lines 9-15.	fashion, to prepare particular apparatus ... ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
		instruct tuner, 214, to switch box, 201, to channel X	Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...
		and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"	Page 445 lines 24-27.	...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...
		and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 446 lines 18-23.	...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
		and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
			Page 445 line 35 to page 446 line 1.	...and to tune monitor, 202M, in a predetermined fashion.
		The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
			Page 451 line 3.	And the Fig. 1C combining is displayed.
			Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer



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a sequential presentation of said television programming and at least one subscriber specific datum;	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  Then the host says, "And here is what your portfolio did."
	Column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 26 lines 8-11.	TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...
storing at said storage device a second instruction signal which is capable of enabling	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.

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<p>a subscriber station to respond to a subscriber reaction inputted by at least one of said computer and a processor;</p>	<p>Column 20 lines 27-32.</p> <p>Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...</p> <p>Column 20 lines 19-26.</p> <p>Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...</p>	<p>Page 471 line 26 to page 472 line 17.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>Page 471 lines 6-25.</p> <p>Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.</p> <p>Receiving said instruction and information causes the controller, 20, at each station where</p>	<p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...</p> <p>Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.</p> <p>Receiving said instruction and information causes the controller, 20, at each station where</p>

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storing at said storage device a second instruction signal which is capable of enabling a subscriber station	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.
	Column 13 lines 17-20.	The signals that enable the decrypter/interrupter, 101, to decrypt and/or transfer programming uninterrupted may be embedded in the programming or may be elsewhere.	Page 291 lines 9-24	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p> <p>In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, ... to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, ... on the frequency of said master control channel. (Hereinafter said</p>

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			<p>message is called the "local-cable-enabling-message (#7)."</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.</p> <p>particular master cable control channel (that <i>may or may not be cable channel 13</i>) from the multi-channel cable system</p> <p>Executing said 1st-stage-enable-WSW - program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p> <p>Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, ...</p> <p>And for example, determining that a local station is not preprogrammed properly and/or that decryption, ... apparatus are not functioning correctly may cause apparatus of said station ... interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. And for example, the transmitted</p>
	<p>Page 289 lines 22-27</p>	<p>Page 290 lines 28-29</p> <p>Page 298 lines 17-21.</p> <p>Page 299 lines 19-22.</p> <p>Page 311 line 33 to page 312 line 8.</p>	
<p>to communicate to a remote station a query in respect of information at least one of (i) to be associated with said television programming and (ii) to enable display of said</p>	<p>Column 15 lines 20-25.</p>	<p>In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.</p>	

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television programming;			<p>programming ...</p> <p>At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion....</p> <p>... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly ...</p> <p>At each station where a ... a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly ...</p>	
storing at said storage device a second instruction signal which is effective to control a subscriber station to receive information to at least one of complete and supplement said television programming;	<p>Column 19 lines 59-60.</p> <p>Column 19 lines 23-27.</p>	<p>Then the host says, "And here is what your portfolio did."</p> <p>... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...</p>	<p>Page 25 lines 33-34.</p> <p>Page 437 lines 1-6.</p> <p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p>	<p>Then the host says, "And here is what your portfolio did."</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p>

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storing at said storage device a				Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
				Page 445 lines 24-27.	... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....
				Page 446 lines 18-23.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
		Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
				Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...
				Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
				Page 445 lines 24-27.	... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....

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second instruction signal which is effective at a subscriber station	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 446 lines 18-23.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
	Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 21 lines 23-24.  Page 26 lines 1-2.  Page 37 line 26 to page 38 line 8.	... instruction signals embedded in the "Wall Street Week" programming transmission.  Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
to process a digital television signal ; and storing at said storage device said at least one of	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or

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					78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
said first code and		Column 2 lines 65-66.	Examples of signal units are a unique code identifying a programming unit, ...	Page 14 lines 27-29.	Examples of signal units are a unique code identifying a programming unit, ...
said first datum	Column 17 lines 39- 44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.		Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...
				Page 34 lines 24-26.	... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...
				Page 44 lines 14-15.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...
				Page 95 lines 18-21.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
to serve as a basis for enabling at least one of (i) an output device	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a		Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...
				Page 267 lines 20-28	All eight of said messages are commands.



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	predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.		from example #5.  Page 436 line 9 to page 437 line 3.		<p>The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p>
			Page 439 lines 14-15.		

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to display at least a portion of said television programming and said computer to process said executable code.	Column 18 lines 56-58.	... signal processor, 200, to hold examples of the sought for unique signals in its buffer/ comparator, 8, and compare them with all incoming signals.	Page 420 lines 6-20.	The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio ... One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".  ...said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information....
			Page 422 lines 33 to Page 423 line 4.	
98. The method of claim 96, wherein said selected at least one first location is in said television signal, said method further comprising the step of:	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
storing at said storage device concurrently with said television programming and said first instruction signal information that evidences at least one from the group consisting of:	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...



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			<p>and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ...</p> <p>Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p>	
			<p>Page 15 lines 16-22</p> <p>Page 411 lines 10-15</p> <p>Page 418 line 23 to page 419 line 15.</p>	
(3) a transmission station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of	Page 49 lines 26-28.	<p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p>

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		transmission.	Page 50 lines 1-4.	... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(4) a receiver station;	Column 16 lines 45-47.	This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.	Page 320 lines 27-31.	So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131....
(5) a network;	Column 16 lines 45-47.	This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.	Page 320 lines 27-31.	So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131....
(6) a broadcast station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(7) a channel on a cable system;	Column 16 lines 35-39.	Recorder, 135, might receive the programming over Manhattan Cable TV channel 4 and record the programming from 7:00 PM to 7:30 PM on the evening of July 15, 1985.	Page 319 line 33 – Page 320 line 2.	Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985.
(8) a time of transmission;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head

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(9) an identification of an instruction signal;	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 315 lines 20-24.  Page 44 lines 26-32.  Page 49 line 26 to page 50 line 20.  Page 28 lines 26-27.	end stations); dates and times ...  Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.  Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.  Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.  ... <b>monitor information that identifies what programming</b> is available, ...	
(10) at least one of a source and a supplier of data;	Column 15 lines 63-65.	In the case of data transmitted to the micro-computer, [the signals for which the decoders are monitoring] may be unique codes that identify the source and suppliers of the data.	Page 49 lines 26-28.  Page 50 lines 19-20.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ...  ... unique codes that identify the sources and suppliers of computer data.	
(11) at least one of a distributor and an advertisement; and	Column 15 lines 65-68.	In the case of data received at the printer, [the signals for which the decoders are monitoring] may identify publications,	Page 321 lines 1-6.	Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD	

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			articles, publishers, distributors, advertise ments, etc.		ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming when said tapes or discs are played. For example, laser disc player, 232, can  For example, another of the aforementioned discounts and cents- off coupon specials is of a particular product ... that is advertised ...  At printer, 221, the printed so-called "hard copy" of said offer and coupon information emerges as:  ..... · 15 cents off      15 cents off · · Nabisco Zweiback Teething Toast · · · · ·
				Page 360 lines 31-34.  Page 496 lines 12-13.  Page 496 lines 28-35.	
(12) an indication of a payment obligation.	column 20 lines 49-58.	...and thence to printer, 221, for printing. Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received. Subsequently, when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, that site can determine for billing purposes that the recipe was, first, ordered and, second, delivered.		Page 49 lines 26-28.  Page 50 lines 14-17.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... unique codes for programming (other than programming identified by program unit codes) whose use obligates users to make payments (eg., royalties and residuals); ....

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99. The method of claim 96, wherein said first instruction signal is embedded in said television signal, said method further comprising the steps of:	<p>Column 4 lines 5-9.</p> <p>Column 16 lines 25-32.</p>	<p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...</p> <p>One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.</p>	<p>Page 13 lines 25-28.</p> <p>Page 319 lines 23-30.</p>	<p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.</p> <p>One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.</p>
<p>selecting at least one from the group consisting of:</p> <p>(1) a datum that identifies computer software in said television signal;</p>	<p>Column 3 lines 6-8.</p> <p>Column 16 lines 25-32.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.</p>	<p>Page 14 line 35 to page 15 line 2.</p> <p>Page 319 lines 23-30.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.</p>
(3) a datum that	Column 3 lines 6-8.	Examples of signal words are a string of	Page 14 line 35 to page	Examples of signal words are a string of one



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designates an addressed apparatus;	Column 19 lines 46-48.	one or more digital data bits encoded together on a single line of video or sequentially in audio.  ... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	15 line 2.  Page 23 line 35 to page 24 line 4.  Page 37 line 26 to page 38 line 8	or more digital data bits encoded together on a single line of video or sequentially in audio.  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
(3) a datum that is part of a decryption code;	Column 3 lines 6-8.  Column 13 lines 31-32.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  The signal or signals may transmit a code or codes necessary for the decryption of the transmission.	Page 14 line 35 to page 15 line 2.  Page 292 lines 7-11.  Page 54 lines 2-6.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  Receiving said message causes controller, 20, to load the enable-CC13 instructions and the enable-WSW instructions of the information segment of said message at particular RAM of controller, 20, and execute said instructions as the machine language instructions of one job.  An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art.

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		<p>Page 294 lines 28-35.</p>	<p>Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions.</p> <p>Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,....</p> <p>... thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program....</p>
<p>(4) a datum to be compared to a communication schedule; and</p>	<p>Column 3 lines 6-8.</p> <p>Column 11 lines 38-39.</p>	<p>Page 14 line 35 to page 15 line 2.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with</p>

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					<p>information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
				Page 84 lines 26-28.	
				Page 28 lines 26-27.	
				Page 49 lines 26-27.	
embedding said selected at least one datum in said television signal; and	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.		Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.		Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
				Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
				Page 90 lines 4-7.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-

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storing said selected at least one datum at said storage device concurrently with said television programming and said first instruction signal.				page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	monitor ...
	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	<u>OR</u> Column 19 lines 24-25.			<u>OR</u> Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...
	Column 16 lines 25-32.		One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...
	Column 16 lines 43-47.		Subsequently, the person might play the recorded programming on TV set, 132, from 10:45 PM to 11:15 PM the same evening. This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
			Subsequently, the subscriber might play back the recorded programming and view said programming on TV monitor, 202M, from 10:45 PM to 11:15 PM the same evening. So playing back and transmitting the recorded programming to monitor, 202M, would cause	Page 320 lines 24-31.	

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				TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131 ...
100. The method of claim 96, wherein said first instruction signal includes code, said method further comprising the steps of: selecting at least one second instruction signal, said at least one second instruction signal including at least one from the group consisting of:	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.  Page 59 lines 29-33	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station; ...  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
(1) a switch control signal;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input 74

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					and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...  ... <b>monitor information that identifies what programming</b> is available, ...  Meter-monitor segments contain meter information and/or monitor information.
				Page 84 lines 26-28.	
				Page 28 lines 26-27.	
				Page 49 lines 26-27.	
(2) a timing control signal;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...		Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming</b>

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			transmissions ... ... <b>monitor information that identifies what programming is available, ...</b> Meter-monitor segments contain meter information and/or monitor information.	
(3) a locating control signal;	Column 14 lines 54-55.	If signal processor, 112, has been preprogrammed with the signal or signals ...	Page 28 lines 26-27.  Page 49 lines 26-27.	
	Column 14 lines 54-61.	If signal processor, 112, has been preprogrammed with the signal or signals  or if it has been informed of the predetermined fashion for identifying and processing the the needed signal or signals in the incoming transmission from facility, 113,	Page 298 line 33 to page 299 line 1.  Page 298 line 33 to page 299 line 1.  Page 289 line 22 to page 290 line 10.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.  At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.  In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ... Receiving any given instance of please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to select particular WSW-on-CC13-at-particular-8:30 information in said received information, record said selected information at particular memory, and execute particular receive-authorizing-info-at- appointed-time instructions. ...
		for example, where to look for the signals	Page 290 lines 11-12.  Page 290 lines 26-30.	In a predetermined fashion, executing said instructions causes controller, 20,...  ... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13)

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			<p>from the multi-channel cable system transmission inputted to signal processor, 200,....</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20,....</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time....</p> <p>Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, ....</p> <p>In a predetermined fashion, executing said instructions causes controller, 20,....</p> <p>....transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6,....</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted),</p>	
			<p>OR</p> <p>Page 298 lines 17-18.</p> <p>Page 298 line 34 to page 299 line 1.</p> <p>Page 290 lines 11-17.</p> <p>and when</p> <p>OR</p> <p>Page 297 lines 20-21.</p> <p>Page 290 lines 11-12, lines 21-26.</p> <p>and how,</p> <p>Page 291 lines 21-28.</p>	



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		<p>signal processor, 112, can transfer the signal to decryptor/interruptor, 115.</p>	<p>Page 295 line 30 to page 296 line 1.</p>	<p>to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. ...</p> <p>Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion...</p>
			<p>299 lines 13-18.</p>	<p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. ...</p>
	<p>Column 14 lines 46-54.</p>	<p>The signal or signals necessary for the decryption of the channel that box, 114, passes to decryptor/interruptor, 115,</p>	<p>Page 299 lines 13-25.</p>	<p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said</p>

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		<p>in this case, is not located in the channel transmission.</p> <p>They may be preprogrammed into the signal processor (for example,</p> <p>in programmable random access memory controller, 20, in Fig. 1)</p> <p>or they may be transmitted in a channel other than the channel being transferred from box, 114.</p>	<p>Page 298 line 34 to page 299 line 1.</p> <p>Page 299 lines 13-17.</p> <p>Page 298 line 33 to page 299 line 1.</p> <p>Page 293 line 20.</p> <p>Page 291 lines 10-20.</p> <p>Page 289 lines 25-27.</p> <p>Page 290 lines 28-29.</p>	<p>information being, as explained above, encrypted digital video), to decrypt said information, ...</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...</p> <p>Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, ...</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...</p> <p>...such as, for example, the RAM of controller, 20; ...</p> <p>...said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and ... enable-WSW instructions that include particular enable-WSW-programming information, ... on the frequency of said master control channel. (Hereinafter said message is called the "local-cable-enabling-message (#7).") ...</p> <p>... said "Wall Street Week" program when transmission of said program on cable 13 commences. ...</p> <p>...particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system ...</p> <p>Resulting in a match causes controller, 20,</p>

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				Page 294 lines 28-35.	to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ...
(4) an instruct-io-contact signal that designates a remote receiver station;	Column 8 lines 58-62.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2. An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit.		Page 290 lines 26-31.  Page 291 lines 21-24.  Page 59 lines 29-31.  Page 402 lines 22-26.  Page 403 lines 7-12.	... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...  In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.  ... causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.  Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.  Receiving said message causes said

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			Page 405 lines 20-29.	<p>controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.</p> <p>Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...</p>
(5) an instruct-to-transfer signal that designates one of broadcast and cablecast programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other programming transmissions ...</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...

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(6) an instruct-to-delay signal that designates one of broadcast or cablecast programming;				Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...		Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
				Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ... ... monitor information that identifies what programming is available, ...
				Page 28 lines 26-27. Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
(7) at least one of an instruct-to-decrypt and an instruct-to-interrupt signal that designates programming and a way to at least one of	Column 13 lines 24-25.	The signal or signals instruct decrypter/interrupter, 101, to decrypt the transmission ...		Page 298 lines 10-21.	Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load- and-run-@20 instructions, to load the 1st-stage-enable-WSW-program instructions of the information

Claim Language		Support to parent application filed November 3, 1981		Support to instant specification.	
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decrypt and interrupt;					segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job. Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.
(8) at least one of an instruct-to-enable and an instruct-to-disable signal that designates an apparatus;	Column 20 lines 31-37.	This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form and instruct control means, 226, to activate printer, 221.	Page 471 line 26 to page 472 line 17.		Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...  Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ...  (An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said
			Page 476 line 34 to page 477 line 8.		

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			<p>second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p> <p>... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...</p> <p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said <b>generate-recipe-</b> ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.</p>	
	<p>Column 20 lines 45-46.</p> <p>... and all necessary equipment was enabled.</p>		<p>Page 477 lines 8-17.</p> <p>Page 474 lines 3-7.</p> <p>Page 473 line 29 to page 474 line 1.</p>	
(9) an instruct-to-record signal that designates at least one of a broadcast and a cablecast program;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	<p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73,</p>

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
	Column 19 lines 20-27.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.		<p>determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
			Page 436 line 9 to page 437 line 6.	



Claim Language	Support to parent application filed November 3, 1981.	Support to instant specification.	Language
Reference	Reference	Reference	Language
	<p>Then, in a predetermined fashion, microcomputer, 205, may</p> <p>instruct tuner, 214, to switch box, 201, to channel X</p> <p>and may instruct and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...</p>	<p>Page 439 lines 9-15.</p> <p>Page 439 lines 9-15</p> <p>Page 295 lines 6-8.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 25 line 34 to page 26 line 2.</p>	<p><i>program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer,</p>
(10) a control signal that controls a multimedia presentation;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203,	

Claim Language	Support to parent application filed November 3, 1981.	Language	Reference	Support to instant specification.	Language
		<p>and transferred via processor, 204, to microcomputer, 205. This signal instructs overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 37 line 26 to page 38 line 8.</p>	<p>205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p><b>Controlling Computer-based Combined Media Operations</b></p>	
(11) an instruction signal that governs at least one of a broadcast and a cablecast receiver station environment;	Column 19 line 30.	<b>Co-ordinating Multimedia Presentations in Time</b>	<p>Page 451 line 3.</p> <p>See generally page 447 line 25 to page 457 line 10.</p>	<p>Page 26 lines 4-11.</p>	
	Column 17 lines 56-62.	One or more channels of television programming transmissions inputted to signal processor, 200, and cable converter box, 201, may contain signals intended for microcomputer, 205, which signals	Page 396 line 33 to page 397 line 4.	<p>Particular SPAM regulating messages are embedded in one or more television program channels that are inputted to signal processor, 200, and cable converter box, 201. Said messages include weather bulletin messages</p>	

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	<p>convey information on local weather conditions. Such signals might include current outside temperature and barometric readings. They might include forecast data.</p> <p><b>Governing the Home or Office Environment</b></p>	<p>that convey local weather information and instructions, including, for example, current outside temperature information, barometric readings, and forecast data.</p> <p><b>Automating U. R. Stations ... Regulating Station Environment</b></p>
<p>(12) an instruct-to-power-on signal that designates a receiver;</p>	<p>Column 17 line 54.</p>	<p>See generally page 396 line 30 to page 406 line 31. (Page 396 line 30 quoted herein.)</p>
	<p>Column 11 lines 38-39.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
	<p>Page 84 lines 26-28.</p>	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p>
	<p>Page 28 lines 26-27.</p>	<p>... monitor information that identifies what programming is available, ...</p>
	<p>Page 49 lines 26-27.</p>	<p>Meter-monitor segments contain meter information and/or monitor information</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 267 lines 20-28 from example #5.  Page 435 lines 16-25.  Page 436 line 9 to page 437 line 3.	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205,</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
				contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. ...to receive the transmission of cable channel 13;...
	Column 19 lines 27-28.	... and also microcomputer, <b>205</b> , may instruct switch, <b>216</b> , to turn TV set, <b>202</b> , on ...	Page 439 lines 14-15.  Page 445 line 24 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
(13) an instruct-to-tune signal that designates at least one of a receiver and a frequency;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming ...</b>	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
			Page 84 lines 26-28.	and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 20-23.  Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.		Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
			Page 435 lines 16-25.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ... Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.
			Page 436 line 9 to page 437 line 3.	Receiving said Select-WSW-Program-Unit message causes decoder 203, ... to input ...

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
	Column 19 lines 28-29.	...and tuner, 215, to tune appropriately to "Wall Street Week."	<p>Page 439 lines 14-15.</p> <p>Page 445 line 35 to page 446 line 1.</p> <p>Page 446 lines 17-21.</p>	<p>the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>...to receive the transmission of cable channel 13;...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said</p>

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
(14) an instruct-to-coordinate signal that designates at least two apparatus;	Column 4 lines 5-6.	These techniques employ signals embedded in programs.			information, and to emit sound in accordance with said audio ....
	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.  Then, in a predetermined fashion, microcomputer, 205, may	Page 13 lines 25-26.  Page 436 line 9 to page 437 line 6.		The present invention employs signals embedded in programming.  Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ... ...to cause selected apparatus of said station--cable converter box, 201, ... to
			Page 439 lines 9-15.		



Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
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		instruct tuner, 214, to switch box, 201, to channel X	Page 295 lines 6-8.	receive the transmission of cable channel 13; ...
		and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"	Page 445 lines 24-27.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...
		and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 446 lines 18-23.	...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...
		and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 24 to page 446 line 1.	...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
			Page 445 line 35 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
			Page 446 lines 17-21.	...and to tune monitor, 202M, in a predetermined fashion.
			Page 25 line 33 to page 26 line 2..	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first		Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...

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		Reference	Language	Reference	Language
			overlay to TV set, 202, ...	Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	Column 19 line 30.		Co-ordinating Multimedia Presentations in Time	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
				See generally page 447 line 25 to page 457 line 10.	<b>Controlling Computer-based Combined Media Operations</b>
(15) an instruct-to-compare signal that designates at least one of a news transmission and a computer input;	Column 18 lines 48-55.		Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services precede each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 420 line 21 to page 421 line 7.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.

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	Reference	Language	Reference	Language
				Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ... In due course, said remote news-service-A station ...
(16) an identifier signal that causes a computer to instruct a plurality of tuners each to tune to at least one of a broadcast and a cablecast transmission;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 20-25.	Analyzing these identifier signals in a predetermined fashion, microcomputer,	Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ...

Claim Language		Support to parent application filed November 3, 1981.	Support to instant specification.
Reference	Language	Reference	Language
	<p>205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...</p>		<p>the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to</p>
		Page 439 lines 9-15.	
		Page 295 lines 6-8.	
		Page 439 lines 9-15.	

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."		Page 445 line 24 to page 446 line 1.	receive the transmission of cable channel 13; ...  ... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.  In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
(17) an instruct-to-coordinate signal that designates at least two portions of information and at least one of: (1) an output time and (2) an output place;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.		Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
	Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	<p>Page 26 lines 4-11.</p> <p>Page 451 line 3.</p> <p>Page 18 lines 24-27.</p> <p>page 450 line 27 to page 451 line 11.</p>	<p>said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p>

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		Reference	Language	Reference	Language
(18) an instruct-to-generate signal that designates at least one output datum;					When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
					At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;
	Column 19 line 60 to column 20 line 1.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.	
			This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.	Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is

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		Reference	Language	Reference	Language
(19) an instruct-to-transmit signal that designates at least one computer output;			The viewer then sees a microcomputer generated graphic of his own stocks' performance ...		the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...
	Column 19 line 60 to column 20 line 1.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.		Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
		This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.		Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And
		The viewer then sees a microcomputer generated graphic of his own stocks' performance ...			



Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
(20) an instruct-to-overlay signal that designates at least one television image;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	microcomputer, 205, commences ...  At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.  Page 26 lines 4-11.  Page 45 line 3.	
(21) an instruct-that-if signal that designates a	Column 20 lines 27-36.	Five minutes later,	Five minutes later, said program originating studio embeds in the transmission of the	Page 47 line 26 to page 472 line 17.	

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function to perform if a predetermined condition exists;	<p>a signal is identified in the incoming programming on TV set, <b>202</b>, by decoder, <b>203</b>, which is also transferred by processor, <b>204</b>, to buffer/comparator, <b>8</b>, of signal processor, <b>200</b>.</p> <p>This signal instructs buffer/comparator, <b>8</b>, that, if 567 has been received from signal generator, <b>225</b>, signal processor, <b>200</b>, should, in a predetermined fashion,</p> <p>instruct tuner, <b>223</b>, to tune cable converter box, <b>222</b>, to the appropriate channel to receive the recipe in encoded digital form ...</p>	<p>Page 476 line 34 to page 477 line 8.</p> <p>Page 477 lines 8-17.</p>	<p>"Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200.</p> <p>Receiving said message causes controller, 20, to load and execute said check-for- entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause an instance of ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected ALL signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p> <p>In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to <b>cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive</b> said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to</p>

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(22) an instruct-to-enable-and-d eliver signal that designates information that at least one of completes and supplements a television program;	Column 19 lines 59-60.  Column 19 lines 63-66.	Then the host says, "And here is what your portfolio did."  This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	Page 25 lines 33-34.  Page 26 lines 1-8.          Page 37 line 26 to page 38 line 8.	cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...  Then the host says, "And here is what your portfolio did."  Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the 2, 26, 39, 40, 41, 43, 44, 48, 49, 537, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the
(23) an instruct-to-transmit signal that designates a computer peripheral device;	Column 19 lines 63-66.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the

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			Page 37 line 26 to page 38 line 8.	<p>graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p>
(24) a code signal that designates at least one datum to at least one of remove and embed;	Column 12 lines 35-41.	The cable head end facility also contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from programming as required, and signal generators, 82, 86, and 90, also well known in the art, that controller/ computer, 73, can instruct to add signals to programming as required.	Page 354 lines 18-24.	<p>Fig. 6 shows signal strippers, 81, 85, and 89, of which models exist well known in the art, that computer, 73, can cause to remove SPAM information from programming as required, and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.</p>
(25) a signal addressed to a receiver station apparatus;	Column 18 lines 1-7.	Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205. Microcomputer, 205, uses such received signals, in a predetermined fashion, to govern the operation of furnace, 206, air conditioning system, 207, and window	<p>Page 400 lines 3-4.</p> <p>Page 35 lines 11-15.</p>	<p>Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to ...</p> <p>... the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal</p>

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		opening and closing means, 208.	Page 35 lines 24-27.  Page 35 lines 28-31.  Page 400 lines 6-18. See Fig. 3A regarding the composition of controller 39.  Page 37 line 28 to page 38 line 8.  Page 400 lines 19-22.  Page 401 lines 14-17.	<p>information to controller, 39, which...</p> <p>... said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.</p> <p>... separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39.</p> <p>Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to ... to input the information of the information segment of said message to the CPU of microcomputer, 205; ... and to cause said CPU to execute the information so inputted as a machine language job.</p> <p>Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>So executing said information causes microcomputer, 205, to reducing the power usage of said air conditioning system, 207, causes any open windows at said station to be closed.</p> <p>In this fashion, SPAM messages can control and regulate the operation of individual</p>

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(26) an instruct-to-store signal that designates at least a portion of a program to be at least one of broadcast and cablecast;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.	subscriber station controlled apparatus (the thermostat control of furnace, 206, for example, could be similarly controlled) ...  Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...  ... <b>monitor information that identifies what programming</b> is available, ...  Meter-monitor segments contain meter information and/or monitor information.  Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program
	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the	Page 84 lines 26-28.  Page 28 lines 26-27.  Page 49 lines 26-27.  Page 329 line 2-22.	

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			incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.		unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its transmission so as to transfer the programming amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
(27) an instruct-to-transmit signal that designates at least a portion of a program to be at least one of broadcast and cablecast;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming ...</b>		Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit

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			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programing schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programing.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...



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embedding said selected at least one second instruction signal in said television signal; and		Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
				Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
				Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
		Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
				Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
storing said selected at least one second instruction signal at said at least one storage device concurrently with said television programming and said first instruction signal.		Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
		<u>OR</u> Column 19 lines 24-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...	<u>OR</u> Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its

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	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 439 lines 9-15.  Page 21 lines 23-24.	associated converter box, 201, to convert its...  ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...  ... instruction signals embedded in the "Wall Street Week" programming transmission.
101. A method of encoding signals to control a presentation comprising the steps of:	Column 3 lines 6-8.  Column 19 lines 43-44.  Column 19 lines 60-66.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  ... instruction signals embedded in the "Wall Street Week" programming transmission.  At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 14 line 35 to page 15 line 2.  Page 21 lines 23-24.  Page 25 line 33 to page 26 line 2..  Page 37 line 26 to page 38 line 8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  ... instruction signals embedded in the "Wall Street Week" programming transmission.  Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means

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				<p>of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p>
receiving and storing a program that contains video information, said video information including at least	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	<p>Page 26 lines 4-8.</p> <p>Page 59 lines 29-33.</p> <p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 445 line 24 to page 446 line 1.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs</p>
three full-screen video images to be outputted at a subscriber station in a predetermined sequence;	Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."		

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			Page 446 lines 17-21.	a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.  In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...  During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.
	Column 19 lines 56-59.	The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	Page 451 lines 25-32.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
receiving at least one first instruction which is	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	

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capable of instructing at least one processor at said subscriber station to	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
			Page 25 line 33 to page 26 line 2..	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
at least one of input and	Column 19 lines 48-53.	<p>These signals instruct microcomputer, 205, to</p> <p>generate several graphic video overlays, ...</p> <p>and to transmit these overlays to TV set, 202,</p> <p>upon command.</p>	<p>Page 26 lines 4-8.</p> <p>Page 23 line 35 to page 24 line 16.</p> <p>Page 451 lines 7-11.</p> <p>Page 26 lines 4-8.</p> <p>Page 44 lines 14-17.</p>	<p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p>

Claim Language		Support to parent application filed November 3, 1981		Support to instant specification.	
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respond to a subscriber reaction to said program;				Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...
	<i>In General</i> Column 17 lines 39- 44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are <b>addressed</b> , and transfer such signals to such equipment as <b>directed</b> .		<i>In General</i> Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...
				Page 34 lines 24-26.	... identifies the particular apparatus to which said signals are <b>addressed</b> , and outputs said signals to said apparatus ...
				Page 44 lines 14-15.	A command is an instance of signal information that is <b>addressed</b> to particular subscriber station apparatus and that ...
				Page 95 lines 18-21.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is <b>addressed</b> to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
	<i>More particularly</i> , Column 18 lines 1-2.	Decoder, 203, transfers all received signals to processor or monitor, 204, ...		<i>More particularly</i> , Page 400 lines 3-4.  Page 35 lines 11-15	Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to ...  ... the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which...

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	Column 18 lines 2-4	[processor or monitor, 204] ... identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.	Page 35 lines 24-27  Page 35 lines 28-31  Page 400 lines 6 - 18 See Fig. 3A regarding the composition of controller 39	... said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.  ... separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39.  Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to locate the Weather-Bulletin-125 identification information of said message; to determine that said information does not match particular information at particular last-weather-bulletin-identification RAM associated with said control processor, 39J; to input the information of the information segment of said message to the CPU of microcomputer, 205; to retain information of said Weather-Bulletin-125 identification information at said last-weather-bulletin-identification RAM; and to cause said CPU to execute the information so inputted as a machine language job.  Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber
			Page 37 line 28 to page 38 line 8	



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	<p><i>Specifically</i> Column 19 lines 63-66.</p>	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,</p>	<p><i>Specifically</i> Page 26 lines 1-8.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p>
<p>encoding said at least one first instruction, said step of encoding translating said at least one first instruction</p>	<p>Column 3 lines 6-8.</p> <p>Column 9 lines 31-33.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>A digital signal is embedded by</p>	<p>Page 14 line 35 to page 15 line 2.</p> <p>Page 22 lines 1-6.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... a first series of control instructions is</p>

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		conventional generating and encoding means and transmitted in a television, radio or other transmission.		generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.
			Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
			Page 36 lines 2-3.	... processes signal information embedded in an inputted radio frequency.
			Page 36 lines 19-20.	... processes signal information embedded in a frequency other than a television or radio frequency.
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...
to a control signal, said	Column 19 lines 42-44.	Microcomputer, 205, is preprogrammed to	Page 21 lines 20-24.	Microcomputer, 205, is preprogrammed to ...

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control signal for directing said at least one processor at said subscriber station; and			respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.		respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programming transmission.
	storing said control signal from said step of encoding in conjunction with said program.	Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.	... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...
		Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 446 lines 18-23.  Page 21 lines 23-24.	... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.  ... instruction signals embedded in the "Wall Street Week" programming transmission.
102. The method of claim 101, wherein additional program material is to be outputted at said subscriber station to at least one of		Column 20 lines 5-7.	... and [microcomputer, 205,] prepares to send the next locally generated graphic overlay upon instruction from the originating studio.	Page 27 lines 7-9 and  Page 451 line 22 to Page 452 line 5.	Thereafter the "Wall Street Week" program proceeds, and microcomputer, 205, continues to operate under control of received instructions.  Furthermore, it is undesirable to separate computer operations merely because they result in the generation of separate overlays because such separation may result in unnecessary duplication of calculations. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio--eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. In order to calculate the value of the overall portfolio, it is necessary to calculate the value of these portions. To require that the values of the

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complete and	Column 19 lines 59-60.  Column 19 lines 67 to column 20 line 2.	Then the host says, "And here is what your portfolio did."  The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 25 lines 33-34.  Page 451 line 3.  Page 26 lines 8-11.	portions be recalculated for subsequent overlays would be inefficient.  In computer-based combined medium communications, the amount of information that a given system can convey is dependent on the efficiency of the employment of program instruction sets and combining synch commands.  Then the host says, "And here is what your portfolio did."  And the Fig. 1C combining is displayed.  TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
supplement said program, said method further comprising the step of:	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")

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			Page 44 lines 14-17.  Page 26 lines 20-28.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a  (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
storing a second control signal in conjunction with said program and said control signal from said step of encoding, said second control signal being capable of	Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.  Page 446 lines 18-23.	... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...  ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205 ...	Page 451 lines 6-7.  Page 23 line 35 to page 24 line 4.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as

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			the first series.  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.  Microcomputer, 205, evaluates the initial signal word or words which instruct it to ...  ... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to ...  Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber	
			Page 37 line 26 to page 38 line 8.	
			Page 24 lines 5-6.	
			Page 451 lines 7-9.	
		At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 25 line 33 to page 26 line 2..	
	Column 19 lines 60-66.		Page 37 line 26 to page 38 line 8.	

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providing said additional program material.	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to	Page 26 lines 4-8.	station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 23 line 35 to page 24 line 16.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
				Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
		generate several graphic video overlays, ...	Page 451 lines 7-11.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		and to transmit these overlays to TV set, 202,	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
		upon command.	Page 44 lines 14-17.	A command is an instance of signal

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	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 26 lines 20-28.  Page 23 line 35 to page 24 line 16.	information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.  (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always
			Page 44 lines 14-17.	



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				Page 26 lines 20-28.	constituted of at least a  (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
103. The method of claim 101, wherein said control signal from said step of encoding directs said at least one processor to generate a video overlay that is to be coordinated in said presentation with said video information in said program, said method further comprising the step of:	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.		Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...

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storing a second control signal in conjunction with			Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the <b>programming</b> .	Page 451 line 3.	... to cause said selected recorder, 76 or 78, to turn on and record <b>programming</b> , ...
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate

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said program and said control signal,	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 28 lines 26-27.	transmission stations and embedded in television or radio or other programming transmissions ...
	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 49 lines 26-27.	... monitor information that identifies what programming is available, ...
said second control signal			Page 21 lines 23-24.	Meter-monitor segments contain meter information and/or monitor information.
			Page 435 lines 16-18.	... instruction signals embedded in the "Wall Street Week" programming transmission.
			Page 248 lines 22-26 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...
			Page 250 lines 13-16 from example #5.	Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.
			Page 252 lines 15-35 from example #5.	Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...
				Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter-monitor segment

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capable of causing	Column 19 lines 18-20.	[processor or monitor, 12, reacts] ... in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14.	<p>Page 267 lines 20-28 from example #5.</p> <p>Page 435 lines 16-18.</p> <p>Page 267 lines 20-28 from example #5.</p>	<p>immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the <b>"program unit identification code"</b> and subject matter information of said first command and the <b>channel mark of cable channel 13</b> ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands</p>



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		Then, in a predetermined fashion, microcomputer, <b>205</b> , may		Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ... ...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
		instruct tuner, <b>214</b> , to switch box, <b>201</b> , to channel X	Page 439 lines 9-15.	
		and may instruct control system, <b>220</b> , to turn video recorder, <b>217</b> , on and record "Wall Street Week,"	Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ...
			Page 445 lines 24-27.	...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...
			Page 446 lines 18-23.	...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
		and also microcomputer, <b>205</b> , may instruct switch, <b>216</b> , to turn TV set, <b>202</b> , on	Page 445 line 24 to page 446 line 1.	...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...
		and tuner, <b>215</b> , to tune appropriately to	Page 445 line 35 to	...and to tune monitor, 202M, in a

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a combined video image of (a) at least a portion of said program and (b) said video overlay generated by said at least one processor.	Column 19 lines 60 to page 20 line 2.	"Wall Street Week."  At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	<p>page 446 line 1.</p> <p>Page 446 lines 17-21.</p> <p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p> <p>Page 26 lines 4-11.</p>	<p>predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the</p>

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			Page 451 line 3.	subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
104. The method of claim 101, further comprising the steps of: receiving at least one second instruction, said at least one second instruction including at least one of the group consisting of:	Column 10 lines 61-64.	Incoming programing transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....
			Page 59 lines 29-33	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission



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(1) an instruction which is capable of enabling said subscriber station to generate output information content to be associated with said program;	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 1-2.  Page 37 line 26 to page 38 line 8.	consists of a series or stream of sequentially transmitted SPAM messages.  Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

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(2) an instruction which is capable of enabling said subscriber station to generate output to be associated with at least one of	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3.	And the Fig. 1C combining is displayed.
			Page 26 lines 1-2.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular predetermined fashion or fashions; to identify in a predetermined fashion or fashions a subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
			Page 451 line 3.	And the Fig. 1C combining is displayed.

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a product and a service promoted in said presentation;	Column 20 line 21. Column 19 lines 28-29.	... a printed copy ... ... and tuner, 215, to tune appropriately to "Wall Street Week."	Page 471 line 8. Page 445 line 35 to page 446 line 1. Page 446 lines 17-21.	... your own printed copy ... ... and to tune monitor, 202M, in a predetermined fashion. In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....
(3) an instruction which is capable of enabling said subscriber station to display, in said presentation, at least one of a combined	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 26 lines 1-2.  Page 37 line 26 to page 38 line 8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions a subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
			Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at

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and a sequential output of mass medium programming and at least one subscriber station specific datum;	Column 19 lines 59-60.  Column 19 line 67 to column 20 line 1.	Then the host says, "And here is what your portfolio did."  The viewer then sees a microcomputer generated graphic of his own stocks' performance ...	Page 451 line 3.  Page 25 lines 33-34.  Page 26 lines 8-11.	the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.  Then the host says, "And here is what your portfolio did."  TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...
(4) an instruction which is capable of enabling said subscriber station to respond to	Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory ...

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a subscriber reaction inputted by at least one of	Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...	Page 471 lines 6-25.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.  Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.
said at least one processor and a	Column 20 lines 27-29.	... a signal is identified in the incoming programming on TV set, 202, by decoder, 203, ...	Page 471 line 35 to page 472 line 1.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, ...
	Column 20 lines 29-30.	... which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.	Page 472 lines 4-12.	... Automatically, the controller, 39, of decoder, 145, ... transfers said message to said controller, 20.
			Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to

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computer;	Column 13 lines 43-44.	[Local input, 102,] may be a computer acting in a predetermined fashion.	Page 288 lines 13-20.	transfer said signals to said apparatus.  As Fig. 4 shows, microcomputer, 205, also has capacity for inputting control information ..., and in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.	
(5) an instruction which is capable of enabling said subscriber station to	Column 13 lines 17-20.	The signals that enable the decrypter/interrupter, 101, to decrypt and/or transfer programming uninterrupted may be embedded in the programming or may be elsewhere.	Page 291 lines 9-24	In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, ... to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, ... on the frequency of said master control channel. (Hereinafter said message is called the "local-cable-enabling-message (#7).")  In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...  In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.	
			Page 289 lines 22-27	particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system	
			Page 290 lines 28-29		

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communicate to a remote station a query for information to enable display of said presentation;	Column 15 lines 20-25.	In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.	<p>Page 298 lines 17-21.</p> <p>Page 299 lines 19-22.</p> <p>Page 311 line 33 to page 312 line 8.</p> <p>Page 293 lines 32-35.</p> <p>Page 301 lines 6-9.</p> <p>Page 308 line 35 to page 309 line 3.</p>	<p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p> <p>Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, ...</p> <p>And for example, determining that a local station is not preprogrammed properly and/or that decryption, ... apparatus are not functioning correctly may cause apparatus of said station ... interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. And for example, the transmitted programming ...</p> <p>At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion...</p> <p>... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly ...</p> <p>At each station where a ... a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly ...</p>
(6) an instruction which is capable of	Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202,	Page 471 line 26 to page 472 line 17.	Five minutes later, said program originating studio embeds in the transmission of the

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enabling said subscriber station to communicate to a remote station an	Column 20 lines 54-56.	by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 28 lines 25-35.	"Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ...
order for	Column 20 lines 42-45.	... when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, ...  Then, as part of the predetermined operation, signal processor, 200, conveys to its data recorder, 16, information that the 567 order was placed by the viewer ...	Page 472 lines 23-27.	[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.  ... Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information and TV567# information.



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a product or service at least one of	Column 20 line 21. Column 20 lines 33-36.	... a printed copy ... ... instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...	Page 471 line 8. Page 476 line 34 to page 477 line 8.	... your own printed copy ...  (An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.
(i) promoted in said video information and	Column 20 line 11.  Column 20 lines 16-23.	<b>Coordinating Print and Video</b>  Suppose a viewer watches a television program on cooking techniques that is received on TV set, 202, via box, 201. Julia Childs's "The French Chef" is one such program. Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of	Page 477 lines 8-17.	In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission....  <b>Automating U. R. Stations ... Examples #9 and # 10 Continued</b> <b>Coordinating Computers, Television, and Print</b>  ...transmits the programming transmission of a particular conventional television program on cooking techniques that is called "Exotic Meals of India."  At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6), in the fashions described

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(ii) based on said viewer reaction;		the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input."	Page 470 lines 19-21.	above, apparatus is caused to receive the particular transmission of said program that is retransmitted by the intermediate station of Fig. 6; ...
	Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...	Page 471 lines 6-13.	... to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M.  Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#".
			Page 471 lines 6-25.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.  Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined

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(7) an instruction which is capable of enabling said subscriber station to process a digital television signal ; and	<p>Column 19 lines 63-66.</p> <p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,</p>	<p>fashion, to retain said TV567# information at particular last-local-input-# memory.</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...</p>
(8) an instruction which is capable of enabling said subscriber station to serve as a basis	<p>Column 19 lines 17-23.</p> <p>... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said</p>

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for enabling said at	Column 19 lines 60-66.		Page 436 line 9 to page 437 line 3.	<p>microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming</p>
			Page 439 lines 14-15.	
	At this point, an instruction signal is	At this point, an instruction signal is	Page 25 line 33 to page	

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least one processor to			generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	26 line 2..  Page 37 line 26 to page 38 line 8.	transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
process executable code;	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to		Page 26 lines 4-8.  Page 23 line 35 to page 24 line 16.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of

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				<p>instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")</p> <p>... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.</p> <p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...</p>
		<p>generate several graphic video overlays, ...</p> <p>and to transmit these overlays to TV set, 202,</p> <p><b>upon command.</b></p>	<p>Page 451 lines 7-11.</p> <p>Page 26 lines 4-8.</p> <p>Page 44 lines 14-17.</p> <p>Page 26 lines 20-28.</p>	
<p>encoding said at least one second instruction, said step of encoding translating said at least one second instruction to at least one second control signal, said at</p>	<p>Column 19 lines 60-63.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.</p>	<p>Page 59 lines 29-33.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p>

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least one second control signal for directing said at least one processor; and			<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 14 line 35 to page 15 line 2.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p>
storing said at least one second control signal in conjunction with said program.	<p>Column 3 lines 6-8.</p> <p>Column 4 lines 5-9.</p> <p>Column 3 lines 6-8.</p> <p>Column 11 lines 57-65.</p>	<p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the</p>	<p>Page 13 lines 25-28.</p> <p>Page 14 line 35 to page 15 line 2.</p> <p>Page 329 line 2-22.</p>	<p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said</p>

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		designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.		message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
105. The method of claim 101, further having at least one step from the group consisting of: embedding said control signal in a portion of a television signal which is not visible on a normally tuned television set;	Column 19 lines 43-44.  Column 4 lines 18-22.	... instruction signals embedded in the "Wall Street Week" programming transmission.  In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.	Page 21 lines 23-24.  Page 14 lines 6-11.	... instruction signals embedded in the "Wall Street Week" programming transmission.  In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.



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embedding code in said program that enables at least one of a computer and a controller to	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 46-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command.	Page 23 line 35 to page 24 line 16.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
			Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the

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control a presentation of said program	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to	Page 23 line 35 to page 24 line 16.	above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
		generate several graphic video overlays, ...		Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions ... (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
		and to transmit these overlays to TV set, 202,	Page 451 lines 7-11.	... the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
		upon command.	Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
			Page 44 lines 14-17.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.
			Page 26 lines 20-28.	(Hereinafter, an instruction such as the above

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in accordance with said control signal;		Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	Page 25 line 33 to page 26 line 2..	signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command ...  Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...
				Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
				Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.

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communicating an identification signal and	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.	
			Page 25 line 34 to page 26 line 1.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.	
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 327 line 35 to page 328 line 13.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...  Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of	

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storing said identification signal at a storage location associated with said program; and	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 84 lines 26-28.	each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.

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			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
communicating to and	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
	Column 11 lines 38-39.	By comparing <b>identification signals on</b>	Page 327 line 35 to	Computer, 73, monitors incoming

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		the incoming programming ...	page 328 line 13.	programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
		... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
		These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
storing at a storage location associated with said program some information	Column 11 lines 64-65.  Column 4 lines 5-6.  Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,

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to evidence at least one of an availability, use, and usage of said program at said subscriber station.	Column 19 lines 43-44.  Column 18 lines 30-41.	... instruction signals embedded in the "Wall Street Week" programming transmission.  TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.</p>	<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.</p>



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			Page 414 lines 13-27	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ... Said message is detected at said decoder, 210, and inputted to said controller, 44.  The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
	The processors, 204 and 210, transfer this information to signal processor, 200,		Page 15 lines 16-22	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.  Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.  ... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.
			Page 36 lines 32-33.	Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the
			Page 38 lines 11-14.	
			Page 411 lines 10-15	
			Page 418 line 23 to page 419 line 15.	

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		for recording and subsequent transmission to a remote data collection site.	<p>Page 411 line 28 to page 412 line 2.</p> <p>Page 173 line 30 to page 174 line 23 from example #3.</p> <p>Page 419 lines 4-15.</p>	<p>SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1<sup>st</sup> monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p>

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		Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a remote site.	Page 28 lines 25-35.	[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.  Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...
106. A method of processing signals to control a mass medium programming presentation comprising the steps of:	Column 10 lines 15-23.  Column 12 lines 57-61.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of ... a facility transmitting television programming, radio programming, and making other electronic transmissions.  This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 324 lines 8-24.  Page 339 lines 9-26.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ... The stations so automated may transmit any form of electronically transmitted programming, including television, radio; print, data, and combined medium programming ...  So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data



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			Page 44 lines 14-17.	system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
			Page 26 lines 20-28.	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least a
			Page 25 lines 26-33.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synchron command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synchron command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
mass medium programming and	Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.		During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
communicating said signal to a storage device;	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a

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	Column 10 lines 40-43.	<p>received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.</p> <p>All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...</p>	<p>satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.</p> <p>Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...</p>	
receiving at least one first instruction signal which is capable of	Column 19 lines 60-62.	<p>At this point, an instruction signal is <b>generated</b> in the television studio originating the programming ...</p>	<p>Page 59 lines 29-33.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is <b>generated</b> at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p>	
	Column 11 lines 38-39.	By comparing <b>identification signals</b> on	<p>Page 327 line 35 to</p> <p>Computer, 73, monitors incoming</p>	

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		<b>the incoming programming ...</b>	page 328 line 13.	programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
controlling a subscriber station to	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission

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one of input and	Column 7 lines 54-58.	If a signal or signals are to be passed externally, processor unit, 12, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are <b>addressed</b> and passes them to appropriate jack ports for external transmission.	Page 59 lines 29-33	station; .... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 11 lines 3-14.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, 72. ... Code reader, 72, passes the received signals, with channel identifiers, to cable program controller and computer, 73.	Page 31 lines 14-18.	If a signal or signals are to be transferred externally, in a predetermined fashion controller, 12, identifies the external apparatus to which the signal or signals are <b>addressed</b> and transfers them to the appropriate port or ports for external transmission.
			Page 325 line 34 to page 326 line 11.	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; and transfers said selected messages, with said source mark information, to code reader, 72.
			Page 326 lines 16-18.	Code reader, 72, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, 73.



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respond to a subscriber reaction to information contained in said signal and	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
to communicate at least a portion of said signal to a transmitter;	Column 11 lines 50-57.	... if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions.... ... monitor information that identifies what programming is available, ...
			Page 28 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 49 lines 26-27.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 63. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be
			Page 328 line 22 to page 329 line 1.	

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communicating said at least one first instruction signal to said storage device; and	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.		retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87. In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming ...</b>	Page 25 line 34 to page 26 line 1.  Page 327 line 35 to page 328 line 13.	... an instruction signal is ... embedded in the programming transmission, and transmitted.  Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions ...</b>

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	Column 10 lines 30-39.	The facility receives programing from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programing input means, 62, can receive programing transmissions.	Page 28 lines 26-27.  Page 49 lines 26-27.  Page 324 lines 23-31.	... monitor information that identifies what programming is available, ...  Meter-monitor segments contain meter information and/or monitor information.  The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
	Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programing.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
storing said at least one first instruction signal at said storage device in association with said one of said data file and said mass medium programming.	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programing transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.

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	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...  ... <b>monitor information that identifies what programming</b> is available, ...  Meter-monitor segments contain meter information and/or monitor information.
107. The method of claim 106, wherein said mass medium program comprises one of video and audio, said method further comprising at least one step from the group consisting of:	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.

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embedding said at least one first instruction signal in said signal;	<p>Column 4 lines 5-9.</p> <p>Column 16 lines 25-32.</p>	<p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. ...</p> <p>One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.</p>	<p>Page 13 lines 25-28.</p> <p>Page 319 lines 23-30.</p>	<p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.</p> <p>One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.</p>
embedding a code in said one of said mass medium programming that	<p>Column 4 lines 5-9.</p> <p>Column 11 lines 38-39.</p>	<p>These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing, ...</p> <p>By comparing <b>identification signals on the incoming programming</b> ...</p>	<p>Page 13 lines 25-28.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming</p>



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enables one of a processor and a	Column 19 lines 20-25.	Analyzing these identifier signals in a predetermined fashion, microcomputer,	Page 252 lines 15-35 from example #5.	Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...
			Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
			Page 436 line 9 to page 437 line 6.	Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ...

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computer to one of receive and output information to supplement said mass medium programming in accordance with said at least one first instruction signal;		<p>205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...</p>	<p>the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to</p>	
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	



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		Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.	Page 25 lines 26-33.	receive the transmission of cable channel 13; ... During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
communicating a program unit identification code to said storage device		Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
		Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system,

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and storing said program unit identification code at a storage location associated with said mass medium programming;				<p>71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p>
			Page 84 lines 26-28.	<p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p>
			Page 28 lines 26-27.	<p>... <b>monitor information that identifies what programming</b> is available, ...</p>
	Column 2 lines 63-66.	(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or information <b>message unit</b> . Examples of signal units are a unique code identifying a programming unit, or a ...	Page 49 lines 26-27.	<p>Meter-monitor segments contain meter information and/or monitor information.</p>
	Column 11 lines 64-65.	... instructs the recorder/player, <b>76 or 78</b> , to turn on and record the programming.	Page 14 lines 27-29.	<p>(The term "signal unit" hereinafter means <b>one complete signal instruction</b> or information <b>message unit</b>. Examples of signal units are a unique code identifying a programming unit, or a ...</p>
			Page 329 line 15-16.	<p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p>

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	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
communicating to and storing at said storage device information to be processed at a subscriber station	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78, ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message

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to evidence one of	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.		information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in television or radio or other programming transmissions ...</b>
			Page 28 lines 26-27.	<b>... monitor information that identifies what programming is available, ...</b>
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
			Page 315 lines 20-24.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
			Page 44 lines 26-32.	Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records

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an availability, use, and usage of one of video, audio, and text associated with said mass medium programming;	Column 18 lines 29-41.	FIG. 6B also shows signal processor, 200, monitoring for a data gathering and ratings service.  TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned,	Page 49 line 26 to page 50 line 20.	to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.  Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.  ... <b>monitor information that identifies what programming</b> is available, ...
			Page 28 lines 26-27.	
			Page 411 lines 10-11.	In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...
			Page 88 lines 19-22.	... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.
			Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ... Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above escribed fashion.
			Page 414 lines 13-27.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ...

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			Page 15 lines 16-22.	<p>Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.</p> <p>Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p>
	The processors, 204 and 210, transfer this information to signal processor, 200,		Page 36 lines 32-33.	
			Page 38 lines 11-14.	
			Page 411 lines 10-15.	
			Page 418 line 23 to page 419 line 15.	

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		for recording and subsequent transmission to a remote data collection site.	<p>Page 411 line 28 to page 412 line 2.</p> <p>Page 173 line 30 to page 174 line 23 from example #3.</p> <p>Page 419 lines 4-15.</p> <p>Page 28 lines 25-35.</p>	<p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in ...</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "1<sup>st</sup> monitor information (#3).")</p> <p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity</p>
		Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programming availability to record and transmit to a		





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an instruct signal which	Column 19 lines 12-15.		Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 446 lines 18-23.	217, ... ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
				Page 288 lines 13-20.	As Fig. 4 shows, ... in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.
				Page 445 lines 8-10.	... cause microcomputer, 205, to input particular preprogrammed instructions to said controller, 20, ...
				Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C....
				Page 248 lines 22-26.	Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.
				Page 250 lines 13-16.	Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...
				Page 252 lines 15-35.	Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message

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Reference	Reference	Reference	Language
<p>is effective at a subscriber station to select said mass medium programming;</p>	<p>Column 19 lines 20-25.</p>	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...</p>	<p>that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "<b>program unit identification code</b>" and subject matter information of said first command and the <b>channel mark of cable channel 13</b> ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>Page 267 lines 20-28.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-</p>

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				<p>CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p>
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	
			Page 439 lines 9-15.	
communicating to and storing at said	Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and	Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said

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storage device			may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...		<p>please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43,</p>
an instruct signal which is effective at a subscriber station to generate output to be associated with said one of said data file and said mass medium programming;	Column 19 lines 60 to page 20 line 2.		<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from</p>	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p> <p>Page 439 lines 9-15.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p> <p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	

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		processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.		and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
			Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
			Page 451 line 3.	And the Fig. 1C combining is displayed.
communicating to and storing at said storage device	Column 19 lines 23-27.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 437 lines 1-6.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...
			Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;

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<p>an instruct signal which is effective to generate output to be associated with one of a product, service, and an information presentation;</p>	<p>Column 19 lines 60 to page 20 line 2.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p>	<p>Page 295 lines 6-8.</p>	<p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p>
			<p>Page 439 lines 9-15.</p>	<p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p>
			<p>Page 445 lines 24-27.</p>	<p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....</p>
			<p>Page 446 lines 18-23.</p>	<p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>
			<p>Page 25 line 34 to page 26 line 2.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...</p>
			<p>Page 37 line 26 to page 38 line 8.</p>	<p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred;</p>

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communicating to and storing at said storage device an instruct signal which is effective to				Page 26 lines 4-11.	and to transfer said signals to said apparatus ...  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.  And the Fig. 1C combining is displayed.
				Page 451 line 3.	
		Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes

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display one of	Column 10 line 64 to Column 11 line 1.	At distribution amplifiers, 63 through 70, each incoming feed is split into two paths. One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93.	Page 325 lines 17-24.	said selected recorder, 76 or 78, to record said programming.  In line between each of the aforementioned receiver/demodulator/ input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths. One path is the conventional path whereby programming flows from each given receiver/demodulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75.  Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, ...  Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...  Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.	
	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 324 line 31 to page 325 line 2.		
			Page 436 line 9 to page 437 line 6.		



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		Then, in a predetermined fashion, microcomputer, <b>205</b> , may		Automatically, microcomputer, <b>205</b> , compares said one instance to said program-unit-of-interest information and determines a match with said second instance. Determining a match causes microcomputer, <b>205</b> , automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, <b>20</b> . Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, <b>20</b> , in a predetermined fashion, to prepare particular apparatus ... ... to cause selected apparatus of said station--cable converter box, <b>201</b> , ... to receive the transmission of cable channel <b>13</b> ; ... Then, automatically, controller, <b>20</b> , causes a selected tuner, <b>214</b> , to tune to the frequency of cable channel <b>13</b> , thereby causing its associated converter box, <b>201</b> , to convert its ... ... instructions causes controller, <b>20</b> , ...; to switch power on to video recorder/player, <b>217</b> , ... ... controller, <b>20</b> , ... causes recorder/player, <b>217</b> , to record said information of the "Wall Street Week" program. ... instructions causes controller, <b>20</b> , to switch power on to monitor, <b>202M</b> , ... Automatically, controller, <b>20</b> , inputs a particular instruction to decoder, <b>145</b> , via said communications link, that causes decoder, <b>145</b> , to switch power on to monitor, <b>202M</b> , ... ... and to tune monitor, <b>202M</b> , in a
			Page 439 lines 9-15.	
		instruct tuner, <b>214</b> , to switch box, <b>201</b> , to channel <b>X</b>	Page 295 lines 6-8.	
		and may instruct control system, <b>220</b> , to turn video recorder, <b>217</b> , on and record "Wall Street Week,"	Page 445 lines 24-27.	
		and also microcomputer, <b>205</b> , may instruct switch, <b>216</b> , to turn TV set, <b>202</b> , on	Page 446 lines 18-23.	
		and tuner, <b>215</b> , to tune appropriately to	Page 445 line 24 to page 446 line 1.	
			Page 445 line 35 to	

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a combined and sequential presentation of a mass medium program and a subscriber specific datum;	<p>Column 19 lines 67 to column 20 line 2.</p> <p>Column 19 lines 59-60.</p> <p>Column 19 line 67 to column 20 line 1.</p>	<p>"Wall Street Week."</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.</p> <p>Then the host says, "And here is what your portfolio did."</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	<p>page 446 line 1.</p> <p>Page 446 lines 17-21.</p> <p>Page 451 line 3.</p> <p>Page 26 lines 8-11.</p> <p>Page 25 lines 33-34.</p> <p>Page 26 lines 8-11.</p>	<p>predetermined fashion.</p> <p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...</p> <p>And the Fig. 1C combining is displayed.</p> <p>TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>Then the host says, "And here is what your portfolio did."</p> <p>TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...</p>
communicating to and storing at said storage device an instruct signal which is effective to process	Column 11 lines 57-65.	<p>Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.</p>	Page 329 line 2-22.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining</p>

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a subscriber reaction to said one of said data file and said mass medium programming;		Column 20 lines 27-32.	Five minutes later, a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200. This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, ...	Page 471 line 26 to page 472 line 17.	causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
		Column 20 lines 19-26.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input." The viewer then presses buttons 567 on local input, 225, which signal is conveyed to	Page 471 lines 6-25.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ... At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ... Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ... Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information

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		the buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, to hold and process further ...			that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station. Receiving said instruction and information causes the controller, 20, at each station where TV567# is entered, in a predetermined fashion, to retain said TV567# information at particular last-local-input-# memory.
communicating to and storing at said storage device an instruct signal which is effective to	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.		Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder.

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	Column 13 lines 17-20.	The signals that enable the decrypter/interrupter, 101, to decrypt and/or transfer programming uninterrupted may be embedded in the programming or may be elsewhere.	Page 291 lines 9-24	<p>76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.</p> <p>In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, ... to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, ... <i>on the frequency of said master control channel</i>. (Hereinafter said message is called the "local-cable-enabling-message (#7).")</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...</p> <p>In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.</p> <p>particular master cable control channel (that <i>may or may not be cable channel 13</i>) from the multi-channel cable system</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p> <p>Automatically, controller, 20, causes matrix</p>
			Page 289 lines 22-27	
			Page 290 lines 28-29	
			Page 298 lines 17-21.	
			Page 299 lines 19-22.	

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one of communicate to a remote station a query in respect of information to be associated with said mass medium programming and to enable display of said mass medium programming;	Column 15 lines 20-25.	In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.	<p>Page 311 line 33 to page 312 line 8.</p> <p>Page 293 lines 32-35.</p> <p>Page 301 lines 6-9.</p> <p>Page 308 line 35 to page 309 line 3.</p>	<p>switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, ...</p> <p>And for example, determining that a local station is not preprogrammed properly and/or that decryption, ... apparatus are not functioning correctly may cause apparatus of said station ... interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information. And for example, the transmitted programming ...</p> <p>At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion....</p> <p>... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly ...</p> <p>At each station where a ... a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly ...</p>
communicating to and storing at said storage device an instruct signal which is effective to control a subscriber station to receive information to supplement said mass medium programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor</p>

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				<p><b>information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
communicating to and storing at said storage device	Column 19 lines 23-27.	... microcomputer, <b>205</b> , may instruct tuner, <b>214</b> , to switch box, <b>201</b> , to channel X and may instruct control system, <b>220</b> , to turn video recorder, <b>217</b> , on and record "Wall Street Week," ...	Page 437 lines 1-6.	<p>Determining a match causes microcomputer, <b>205</b>, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, <b>20</b>.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, <b>20</b>, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, <b>201</b>, ... to receive the transmission of cable channel 13; ...</p> <p>Then, automatically, controller, <b>20</b>, causes a selected tuner, <b>214</b>, to tune to the frequency of cable channel 13, thereby causing its associated converter box, <b>201</b>, to convert its...</p>
			Page 439 lines 9-15.	
			Page 295 lines 6-8.	

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an instruct signal which is effective to process a digital television signal; and	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	<p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>	Page 439 lines 9-15.	...
				Page 445 lines 24-27.	...
				Page 446 lines 18-23.	...
				Page 25 line 33 to page 26 line 2..	...
				Page 37 line 26 to page 38 line 8.	...
				Page 26 lines 4-8.	Said signal instructs microcomputer, 205, at



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communicating to and storing at said storage device one of	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
a code and	Column 2 lines 65-66.	Examples of signal units are a unique code identifying a programming unit, ...	Page 14 lines 27-29.	Examples of signal units are a unique code identifying a programming unit, ...
a datum	Column 17 lines 39- 44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming	Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions....The scanners/switches, working in parallel or series or combinations, transfer the

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to serve as a basis for one of enabling an output device		transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.	Page 34 lines 24-26.  Page 44 lines 14-15.  Page 95 lines 18-21.	transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ...  ... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus ...  A command is an instance of signal information that is addressed to particular subscriber station apparatus and that ...  Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message to microcomputer, 205.
	Column 19 lines 17-23.	... processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 435 lines 16-18.  Page 267 lines 20-28 from example #5.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...  All eight of said messages are commands. The 1st- and 3rd-new- program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
			Page 436 line 9 to page 437 line 3.	Receiving said Select-WSW-Program- Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether- to-select instructions that

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to display at least a portion of said mass medium programming and for enabling a processor to process code.	Column 18 lines 56-58.	... signal processor, 200, to hold examples of the sought for unique signals in its buffer/ comparator, 8, and compare them with all incoming signals.	Page 439 lines 14-15.  Page 420 lines 6-20.	<p>contain said particular specific-WSW information and said ... enable-WSW-on-CC13...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is programmed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13; ...</p> <p>The signal processor, 200, of said station is preprogrammed ... with particular news-items-of-interest information that includes identification information of the particular stocks in said portfolio ...</p> <p>One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".</p> <p>... said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and</p>
			Page 422 lines 33 to Page 423 line 4.	

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				determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information....
108. The method of claim 106, said method further comprising the steps of: selecting at least one from the group consisting of:	Column 4 lines 5-9.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertently from the programing and, thereby, inhibit automatic processing, ...	Page 13 lines 25-28.	The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
(1) a datum that identifies computer software in a television signal;	Column 3 lines 3-8.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 32 to page 15 line 2.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
(2) a datum that designates an addressed apparatus;	Column 3 lines 6-8.  Column 19 lines 46-48.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  ... several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 14 line 35 to page 15 line 2.  Page 23 line 35 to page 24 line 4.  Page 37 line 26 to page 38 line 8	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is

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(3) a datum that is part of a decryption code;				preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
	Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
	Column 13 lines 31-32.	The signal or signals may transmit a code or codes necessary for the decryption of the transmission.	Page 292 lines 7-11.	Receiving said message causes controller, 20, to load the enable-CC13 instructions and the enable-WSW instructions of the information segment of said message at particular RAM of controller, 20, and execute said instructions as the machine language instructions of one job.
			Page 54 lines 2-6.	An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art.
			Page 294 lines 28-35.	Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ...
			Page 295 line 27 to page 296 line 2.	... thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said

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				portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program....
(4) a datum to be compared to a communication schedule; and	Column 3 lines 6-8.  Column 11 lines 38-39.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  By comparing identification signals on the incoming programming with the programming schedule ...	Page 14 line 35 to page 15 line 2.  Page 327 line 35 to page 328 line 13.  Page 84 lines 26-28.  Page 28 lines 26-27.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.  Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....  ... monitor information that identifies what programming is available, ...

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embedding said selected at least one datum in said signal; and	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	<p>Page 21 lines 23-24.</p> <p>Page 59 lines 29-33.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor ...</p>
storing said selected at least one datum at said storage device concurrently with said at least one first instruction signal.	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	<p>Page 25 line 34 to page 26 line 1.</p> <p>Page 90 lines 4-7.</p> <p>Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p>	<p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p>
	<u>OR</u> Column 19 lines 24-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...	<u>OR</u> Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its

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	Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.	Page 439 lines 9-15.  Page 319 lines 23-30.	associated converter box, 201, to convert its ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...  One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.
	Column 16 lines 43-47.	Subsequently, the person might play the recorded programming on TV set, 132, from 10:45 PM to 11:15 PM the same evening. This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.	Page 320 lines 24-31.	Subsequently, the subscriber might play back the recorded programming and view said programming on TV monitor, 202M, from 10:45 PM to 11:15 PM the same evening. So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said information, together with appropriate source mark information, to signal processor, 131 ...
109. The method of claim 106, further comprising the step of: storing at said storage device concurrently with said at least one first instruction signal information to evidence one of an availability, use, and usage of said at	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...



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least one first instruction signal, said evidence information one of designating and identifying at least one of:	Column 19 lines 24-25.	... microcomputer, <b>205</b> , may instruct tuner, <b>214</b> , to switch box, <b>201</b> , to channel X...	Page 295 lines 6-8.  Page 439 lines 9-15.  Page 21 lines 23-24.	Then, automatically, controller, <b>20</b> , causes a selected tuner, <b>214</b> , to tune to the frequency of cable channel <b>13</b> , thereby causing its associated converter box, <b>201</b> , to convert its...  ... to cause selected apparatus of said station--cable converter box, <b>201</b> , ... to receive the transmission of cable channel <b>13</b> ;...  ... instruction signals embedded in the "Wall Street Week" programming transmission.
(1) a mass medium program;	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 49 lines 26-28.  Page 50 lines 6-7.  Page 319 lines 30-33.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... unique identifier codes for each program unit (including commercials); ...  For example, a subscriber might instruct video recorder/player, <b>217</b> , automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.
(2) a use of programming;	Column 18 lines 30-35.	TV signal decoder, <b>203</b> , and radio signal decoder, <b>211</b> , also identify certain signals that monitors or processors, <b>204</b> and <b>210</b> respectively, determine to identify the programs, etc. on the channels to which TV set, <b>202</b> , and radio, <b>209</b> , are tuned, ...	Page 408 lines 18-29	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ...

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			Page 414 lines 13-27	<p>Said message is detected at said decoder, 203, and inputted to said controller, 39, in the above described fashion.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ...</p> <p>Said message is detected at said decoder, 210, and inputted to said controller, 44.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p>
			Page 15 lines 16-22	<p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, 14A, of said signal processor, 200, in the fashion of example #3 above.</p>
			Page 411 lines 10-15	<p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p>
			Page 418 line 23 to page 419 line 15.	

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(3) a transmission station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...	
(4) a receiver station;	Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 319 lines 30-33.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	
(5) a network;	Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	Page 319 lines 30-33.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	
(6) a broadcast station;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 49 lines 26-28.  Page 50 lines 1-4.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...	
(7) a channel on a cable system;	Column 16 lines 35-39.	Recorder, 135, might receive the programming over Manhattan Cable TV channel 4 and record the programming from 7:00 PM to 7:30 PM on the evening of July 15, 1985.	Page 319 line 33 - Page 320 line 2.	Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985.	
(8) a time of transmission;	Column 15 lines 60-62.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable	Page 49 lines 26-28.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information	

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			systems, and possibly times of transmission.	Page 50 lines 1-4.	include: ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...
(9) an instruct signal;	Column 15 lines 57-60.	The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programming or data unit received and the source of each.		Page 315 lines 20-24.  Page 44 lines 26-32.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.  Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.  Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.  ... <b>monitor information that identifies what programming</b> is available, ...
(10) a source or supplier of data;	Column 15 lines 63-65.	In the case of data transmitted to the micro-computer, [the signals for which the decoders are monitoring] may be unique codes that identify the source and suppliers of the data.		Page 49 line 26 to page 50 line 20.  Page 28 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ... unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.  Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include: ...  ... unique codes that identify the sources and suppliers of computer data.

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(11) one of a distributor and an advertisement; and	Column 15 lines 65-68.	In the case of data received at the printer, [the signals for which the decoders are monitoring] may identify publications, articles, publishers, distributors, advertisements, etc.	Page 321 lines 1-6.  Page 360 lines 31-34.  Page 496 lines 12-13.  Page 496 lines 28-35.	<p>Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming when said tapes or discs are played. For example, laser disc player, 232, can</p> <p>For example, another of the aforementioned discounts and cents-off coupon specials is of a particular product ... that is advertised ...</p> <p>At printer, 221, the printed so-called "hard copy" of said offer and coupon information emerges as:</p> <p>.....</p> <p>. 15 cents off      15 cents off .</p> <p>. Nabisco Zweiback Teething Toast .</p> <p>. . . . .</p>
(12) an indication of a payment obligation.	column 20 lines 49-58.	<p>...and thence to printer, 221, for printing. Other signal decoder, 227, identifies a signal in the transmission received by printer, 221, which it passes via processor, 228, and buffer/comparator, 14, of signal processor, 200, to data recorder, 16. This signal indicates that the recipe, itself, has been received. Subsequently, when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site, that site can determine for billing purposes that</p>	<p>Page 49 lines 26-28.</p> <p>Page 50 lines 14-17.</p>	<p>Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:</p> <p>...unique codes for programming (other than programming identified by program unit codes) whose use obligates users to make payments (eg., royalties and residuals);....</p>

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			the recipe was, first, ordered and, second, delivered.		
110. The method of claim 106, wherein said at least one first instruction signal comprises downloadable code, said method further comprising the steps of: selecting at least one second instruction signal, said at least one second instruction signal including at least one from the group consisting of:	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.  Page 59 lines 29-33	At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;....  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.	
(1) a switch control instruction;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming ...</b>	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. <b>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when</b>	

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			<p>Page 84 lines 26-28.</p> <p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p>	<p>and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
(2) a timing control instruction;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 327 line 35 to page 328 line 13.</p> <p>Page 84 lines 26-28.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p>

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			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
(3) a locating control signal;	Column 14 lines 54-55.	If signal processor, 112, has been preprogrammed with the signal or signals ...	Page 298 line 33 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.
	Column 14 lines 54-61.	If signal processor, 112, has been preprogrammed with the signal or signals	Page 298 line 33 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.
		or if it has been informed of the predetermined fashion for identifying and processing the the needed signal or signals in the incoming transmission from facility, 113,	Page 289 line 22 to page 290 line 10.	In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ... Receiving any given instance of please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to select particular WSW-on- CC13-at-particular-8:30 information in said received information, record said selected information at particular memory, and execute particular receive-authorizing-info-at- appointed-time instructions. ...
		for example, where to look for the signals	Page 290 lines 11-12.	In a predetermined fashion, executing said instructions causes controller, 20,...
			Page 290 lines 26-30.	...causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor,



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			<p>200,....</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20,....</p> <p>At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba. ...</p> <p>In a predetermined fashion, executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time....</p> <p>Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, ....</p> <p>In a predetermined fashion, executing said instructions causes controller, 20,....</p> <p>....transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6,....</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution</p>	
	and when		<p>OR</p> <p>Page 298 lines 17-18.</p> <p>Page 298 line 34 to page 299 line 1.</p> <p>Page 290 lines 11-17.</p>	
	and how,		<p>OR</p> <p>Page 297 lines 20-21.</p> <p>Page 290 lines 11-12, lines 21-26.</p> <p>Page 291 lines 21-28.</p>	

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				segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. ...
		signal processor, 112, can transfer the signal to decryptor/interruptor, 115.	Page 295 line 30 to page 296 line 1.	Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion....
			299 lines 13-18.	Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. ...
	Column 14 lines 46-54.	The signal or signals necessary for the decryption of the channel that box, 114, passes to decryptor/interruptor, 115,	Page 299 lines 13-25.	Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said

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		in this case, is not located in the channel transmission.	Page 298 line 34 to page 299 line 1.	information, ... At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...
		They may be preprogramed into the signal processor (for example,	Page 299 lines 13-17.	Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, ...
		in programmable random access memory controller, 20, in Fig. 1)	Page 298 line 33 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba ...
		or they may be transmitted in a channel other than the channel being transferred from box, 114.	Page 293 line 20.	...such as, for example, the RAM of controller, 20; ...
			Page 291 lines 10-20.	...said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and ... enable-WSW instructions that include particular enable-WSW-programming information, ... on the frequency of said master control channel. (Hereinafter said message is called the "local-cable-enabling-message (#7).") ...
			Page 289 lines 25-27.	... said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ...
			Page 290 lines 28-29.	...particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system ...
			Page 294 lines 28-35.	Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions.

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(4) an instruct-to-contact signal that designates a remote receiver station;	Column 8 lines 58-62.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2. An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit.	Page 290 lines 26-31.	Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ...
			Page 291 lines 21-24.	... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...
				In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...
			Page 59 lines 29-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
			Page 402 lines 22-26.	... causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.
			Page 403 lines 7-12.	Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30. Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM

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(5) an instruct-to-transfer signal that designates one of broadcast and cablecast programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 405 lines 20-29.</p> <p>message to the controller, 20, of the signal processor, 200, of said station.</p> <p>Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...</p> <p>Page 327 line 35 to page 328 line 13.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>Page 84 lines 26-28.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>Page 28 lines 26-27.</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Page 49 lines 26-27.</p> <p>Meter-monitor segments contain meter</p>	<p>message to the controller, 20, of the signal processor, 200, of said station.</p> <p>Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions ...</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter</p>

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(6) an instruct-to-delay signal that designates one of broadcast and cablecast programming;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	information and/or monitor information.  Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations or embedded in television or radio or other programming transmissions ...  ... monitor information that identifies what programming is available, ...  Meter-monitor segments contain meter information and/or monitor information.
(7) at least one of an instruct-to-decrypt and an instruct-to-interrupt signal that designates programming and a way to at least one of decrypt and interrupt;	Column 13 lines 24-25.	The signal or signals instruct decrypter/interrupter, 101, to decrypt the transmission ...	Page 28 lines 26-27.  Page 49 lines 26-27.  Page 298 lines 10-21.	Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load- and-run-@20 instructions, to load the 1st-stage-enable-WSW-program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of

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				<p>one so-called job.</p> <p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p>
(8) at least one of an instruct-to-enable and an instruct-to-disable signal that designates an apparatus;	Column 20 lines 31-37.	<p>This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form and instruct control means, 226, to activate printer, 221.</p>	<p>Page 471 line 26 to page 472 line 17.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for-entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. ...</p> <p>Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-memory ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the</p>	
			<p>476 line 34 to page 477 line 8.</p>	

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			Page 477 lines 8-17.	microcomputer, 205, of said station.  In this alternate method, ... said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of a selected converter box, 222, to tune said box, 222, to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...  ... instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221 ...
	Column 20 lines 45-46.  ... and all necessary equipment was enabled.		Page 474 lines 3-7.  Page 473 line 29 to page 474 line 1.	Receiving said message causes the controller, 39, of decoder, 203, to load and execute said <b>generate-recipe-</b> ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
(9) an instruct-to-record signal that designates at least one of a broadcast and a cablecast program;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming</b> ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution



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				<p>amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
	Column 19 lines 20-27.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	Page 436 line 9 to page 437 line 6.	

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			Then, in a predetermined fashion, microcomputer, 205, may		information and determines a match with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, ... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its... ... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ... ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.
			instruct tuner, 214, to switch box, 201, to channel X	Page 439 lines 9-15.  Page 439 lines 9-15  Page 295 lines 6-8.	
			and may instruct and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.  Page 446 lines 18-23.	
(10) a control signal that controls a multimedia presentation;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs		Page 25 line 34 to page 26 line 2.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...

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		microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
			Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
	Column 19 line 30.	Co-ordinating Multimedia Presentations in Time	Page 451 line 3.	And the Fig. 1C combining is displayed.
	Column 17 lines 56-62.	One or more channels of television programming transmissions inputted to signal processor, 200, and cable converter box, 201, may contain signals intended for microcomputer, 205, which signals convey information on local weather conditions. Such signals might include	See generally page 447 line 25 to page 457 line 10.	<b>Controlling Computer-based Combined Media Operations</b>
(11) an instruction signal that governs at least one of a broadcast and a cablecast receiver station environment;			Page 396 line 33 to page 397 line 4.	Particular SPAM regulating messages are embedded in one or more television program channels that are inputted to signal processor, 200, and cable converter box, 201. Said messages include weather bulletin messages that convey local weather information and instructions, including, for example, current

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	Column 17 line 54.	current outside temperature and barometric readings. They might include forecast data.  <b>Governing the Home or Office Environment</b>		outside temperature information, barometric readings, and forecast data.
(12) an instruct-to-power-on signal that designates a receiver;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming ...</b>	See <i>generally</i> page 396 line 30 to page 406 line 31. (Page 396 line 30 quoted herein.)  Page 327 line 35 to page 328 line 13.	<b>Automating U. R. Stations ... Regulating Station Environment</b>  Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.  By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions ...</b>  ... <b>monitor information that identifies what programming</b> is available, ...  Meter-monitor segments contain meter information and/or monitor information.  All eight of said messages are commands.
	Column 19 lines 20-23.	Analyzing these identifier signals in a	Page 84 lines 26-28.  Page 28 lines 26-27.  Page 49 lines 26-27.  Page 267 lines 20-28	

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		predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	from example #5.  Page 435 lines 16-25.  Page 436 line 9 to page 437 line 3.	<p>The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects</p>

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			<p><i>the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</i></p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13;...</p> <p>... instructions causes controller, 20, to switch power on to monitor, 202M, ...</p> <p>Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ...</p>	
(13) an instruct-to-tune signal that designates at least one of a receiver and a frequency;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	<p>Page 439 lines 14-15.</p> <p>Page 445 line 24 to page 446 line 1.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input 74</p>

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				and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, <b>205</b> , determines that "Wall Street Week" is being televised on channel X.	Page 267 lines 20-28 from example #5.	All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)
			Page 435 lines 16-25.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ... Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.

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			Page 436 line 9 to page 437 line 3.	<p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>... to receive the transmission of cable channel 13;...</p> <p>... and to tune monitor, 202M, in a predetermined fashion.</p>
			Page 439 lines 14-15.	
	Column 19 lines 28-29.	...and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 35 to page 446 line 1.	<p>In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and</p>



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				Page 446 lines 17-21.	audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....
(14) an instruct-to-coordinate signal that designates at least two apparatus;	Column 4 lines 5-6.  Column 19 lines 20-29.	These techniques employ signals embedded in programs.  Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.  Then, in a predetermined fashion, microcomputer, 205, may	Page 13 lines 25-26.  Page 436 line 9 to page 437 line 6.	The present invention employs signals embedded in programming.  Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance. Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20. Receiving said please-fully-enable-WSW-	

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			Page 439 lines 9-15.	on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ... ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its ... ... instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ... ... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program. ... instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, ... ... and to tune monitor, 202M, in a predetermined fashion.
	instruct tuner, 214, to switch box, 201, to channel X		Page 295 lines 6-8.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ... Then the host says, "And here is what your portfolio did." At this point, an instruction
	and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"		Page 445 lines 24-27.	
	and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on		Page 446 lines 18-23.	
	and tuner, 215, to tune appropriately to "Wall Street Week."		Page 445 line 24 to page 446 line 1.  Page 446 lines 17-21.	

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	Column 19 lines 60-66.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, ...	<p>Page 25 line 33 to page 26 line 2..</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed ...</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p> <p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p><b>Controlling Computer-based Combined Media Operations</b></p>
	Column 19 line 30.	<b>Co-ordinating Multimedia Presentations in Time</b>	<p>Page 26 lines 4-8.</p> <p>See generally page 447 line 25 to page 457 line 10.</p>	
(15) an instruct-to-compare signal that designates at	Column 18 lines 48-55.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to	Page 420 line 21 to page 421 line 7.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from geographically

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least one of a news transmission and a computer input;		converter boxes, 222 and 201, and to signal processor, 200. The news services proceed each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.			separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200. Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit- News-Item SPAM message ... In due course, said remote news-service-A station ...
(16) an identifier signal that causes a computer to instruct a plurality of tuners each to tune to at least one of a broadcast and a cablecast transmission;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.		Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.		SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...

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	Column 19 lines 20-25.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X ...	<p>Page 28 lines 26-27.</p> <p>Page 49 lines 26-27.</p> <p>Page 436 line 9 to page 437 line 6.</p>	<p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said ... enable-WSW-on-CC13 ...</p> <p>Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.</i> Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW -on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at- particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...</p> <p>Page 439 lines 9-15.</p>

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
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		Column 19 lines 27-29.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."	Page 295 lines 6-8.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...
				Page 439 lines 9-15.	... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13; ...
(17) an instruct-to-coordinate signal that designates at least two portions of information and at least one of: (1) an output time and (2) an output place;	Column 19 lines 60 to page 20 line 2.			Page 445 line 24 to page 446 line 1.	... instructions causes controller, 20, to switch power on to monitor, 202M, and commence transferring the television output transmission of microcomputer, 205, to said monitor, 202M; ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M, and to tune monitor, 202M, in a predetermined fashion.
				Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio ...
				Page 25 line 34 to page 26 line 2.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...
				Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by

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		generated graphic.		means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
			Page 26 lines 4-11.	Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
			Page 451 line 3.	And the Fig. 1C combining is displayed.
	Column 19 lines 31-34.	FIG 6C can also illustrate how programing delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 18 lines 24-27.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.
			page 450 line 27 to page 451 line 11.	(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to

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(18) an instruct-to-generate signal that designates at least one output datum;					<p>be recorded at said microcomputer, 205.)</p> <p>Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed.</p> <p>But the combining of Fig. 1C is just part of a larger process.</p> <p>When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>
		<p>Column 19 line 60 to column 20 line 1.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>



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		<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.</p> <p>The viewer then sees a microcomputer generated graphic of his own stocks' performance ...</p>	Page 26 lines 4-11.	<p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...</p>
(19) an instruct-to-transmit signal that designates at least one computer output;	Column 19 line 60 to column 20 line 1.	<p>At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.</p>	<p>Page 25 line 34 to page 26 line 2.</p> <p>Page 37 line 26 to page 38 line 8.</p>	<p>At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205;</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to ... correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>
		<p>This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,</p>	Page 26 lines 4-11.	<p>Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic</p>

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			for as long as it receives the same instruction signal from processor, 204.  The viewer then sees a microcomputer generated graphic of his own stocks' performance ...		information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. And microcomputer, 205, commences ...
(20) an instruct-to-overlay signal that designates at least one television image;	Column 19 lines 60 to page 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 25 line 34 to page 26 line 2.  Page 37 line 26 to page 38 line 8.  Page 26 lines 4-11.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; ...  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...  Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is	

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<p>(21) an instruct-that-if signal that designates a function to perform if a predetermined condition exists;</p>	<p>Column 20 lines 27-36.</p> <p>Five minutes later,</p> <p>a signal is identified in the incoming programming on TV set, 202, by decoder, 203, which is also transferred by processor, 204, to buffer/comparator, 8, of signal processor, 200.</p> <p>This signal instructs buffer/comparator, 8, that, if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion,</p> <p>instruct tuner, 223, to tune cable converter box, 222, to the appropriate channel to receive the recipe in encoded digital form ...</p>	<p>the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.</p> <p>And the Fig. 1C combining is displayed.</p> <p>Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... check-for- entered-information-and-process instructions, ...</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200.</p> <p>Receiving said message causes controller, 20, to load and execute said check-for- entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause an instance of ...</p> <p>(An alternate method for inputting said second message to the microcomputers, 205, at stations where TV567# is entered at a local input, 225, is to embed said message in a particular second transmission that is different from the transmission of said "Exotic Meals of India" programming and to cause a selected All signal decoder, 290, at each one of said stations to receive said second transmission, thereby causing said decoder, 290, to detect and transfer the information of said second message to the microcomputer, 205, of said station.</p>
		<p>Page 451 line 3.</p> <p>Page 471 line 26 to page 472 line 17.</p> <p>Page 476 line 34 to page 477 line 8.</p>
		<p>Page 477 lines 8-17</p> <p>In this alternate method ... said first SPAM</p>

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(22) an instruct-to-enable-and-d eliver signal that designates information that at least one of completes and supplements a television program;	<p>Column 19 lines 59-60.</p> <p>Column 19 lines 63-66.</p>	<p>message causes controller, 20, of signal processor, 200, of each one of said stations to <b>cause the tuner, 223, of a selected converter box, 222, to tune said box, 222,</b> to receive said second transmission; to cause the matrix switch, 258, to establish a programming communication link between said selected converter box, 222, and said decoder, 290; to cause the appropriate receiver apparatus of said decoder, 290, to receive said transmission ...</p> <p>Then the host says, "And here is what your portfolio did."</p> <p>Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus</p>

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(23) an instruct-to-transmit signal that designates a computer peripheral device;	Column 19 lines 63-66.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,	Page 26 lines 1-8.  Page 37 line 26 to page 38 line 8.	...  Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
(24) a code signal that designates at least one datum to at least one of remove and embed;	Column 12 lines 35-41.	The cable head end facility also contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from programming as required, and signal generators, 82, 86, and 90, also well known in the art, that controller/ computer, 73, can instruct to add signals to programming as required.	Page 354 lines 18-24.	Fig. 6 shows signal strippers, 81, 85, and 89, of which models exist well known in the art, that computer, 73, can cause to remove SPAM information from programming as required, and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM information as required.
(25) a signal	Column 18 lines 1-7.	Decoder, 203, transfers all received	Page 400 lines 3-4.	Receiving said Weather-Bulletin-125 SPAM

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addressed to a receiver station apparatus;		signals to processor or monitor, <b>204</b> , which identifies the signals as addressed to microcomputer, <b>205</b> , and transfers them to microcomputer, <b>205</b> . Microcomputer, <b>205</b> , uses such received signals, in a predetermined fashion, to govern the operation of furnace, <b>206</b> , air conditioning system, <b>207</b> , and window opening and closing means, <b>208</b> .	Page 35 lines 11-15.	message causes decoder, <b>203</b> , to ... ... the overall video transmission and passes said information to a digital detector, <b>34</b> , which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, <b>39</b> , which...
			Page 35 lines 24-27.	... said audio information that is of interest. The digital detector, <b>37</b> , detects signal information embedded in said audio information and inputs detected signal information to controller, <b>39</b> .
			Page 35 lines 28-31.	... separately defined transmission to a digital detector, <b>38</b> , which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, <b>39</b> .
			Page 400 lines 6-18. See Fig. 3A regarding the composition of controller <b>39</b> .	Automatically, control processor, <b>39J</b> , executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, <b>39J</b> , to ... to input the information of the information segment of said message to the CPU of microcomputer, <b>205</b> ; ... and to cause said CPU to execute the information so inputted as a machine language job.
			Page 37 line 28 to page 38 line 8.	Upon receiving any given instance of signal information, controller, <b>39</b> , <b>44</b> , or <b>47</b> , is preprogrammed to process said information automatically. Controller, <b>39</b> , is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.

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(26) an instruct-to-store signal that designates at least a portion of a program to be at least one of broadcast and cablecast;	Column 11 lines 38-39.	By comparing <b>identification signals on the incoming programming ...</b>	Page 400 lines 19-22.	So executing said information causes microcomputer, 205, to reducing the power usage of said air conditioning system, 207, causes any open windows at said station to be closed.
			Page 401 lines 14-17.	In this fashion, SPAM messages can control and regulate the operation of individual subscriber station controlled apparatus (the thermostat control of furnace, 206, for example, could be similarly controlled) ...
			Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions ...</b>
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter

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	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	information and/or monitor information.  Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
(27) an instruct-to-transmit signal that designates at least a portion of a program to be at least one of broadcast and cablecast;	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor





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	Reference	Language	Reference	Language
embedding said selected at least one second instruction signal in said signal; and	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programming and is transmitted in the programming transmission.	Page 28 lines 26-27.  Page 49 lines 26-27.	transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....  ... monitor information that identifies what programming is available, ...  Meter-monitor segments contain meter information and/or monitor information.
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 59 lines 29-33.  Page 25 line 34 to page 26 line 1.  Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and page 20-28, page 89 lines 3-6, and page 90 lines 4-11.  Page 21 lines 23-24.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted.  The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor ...  ... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...

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concurrently with said at least one first instruction signal.		<u>OR</u> Column 19 lines 24-25.	... microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X...	<u>OR</u> Page 295 lines 6-8.  Page 439 lines 9-15.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...  ... to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;...
		Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
111. A mass medium programming output apparatus comprising:		Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
an input device for inputting a user reaction to a mass medium programming presentation;		Column 11 lines 39-43.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 9-13.	... said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.

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at least one storage device operatively connected to said input device for storing a mass medium programming signal containing (i) mass medium program materials and	Column 11 lines 44-46.  Column 11 lines 64-65.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.  ... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 326 lines 28-30.  Page 328 lines 14-16.  Page 329 line 15-16.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.  Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ....  ... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
(ii) at least one embedded instruction signal for	Column 12 lines 57-61.  Column 4 lines 5-6.  Column 11 lines 38-39.	This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here ...  These techniques employ signals embedded in programs.  By comparing <b>identification signals on the incoming programming</b> ...	Page 339 lines 9-26.  Page 13 lines 25-26.  Page 327 line 35 to page 328 line 13.	So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...  The present invention employs signals embedded in programming.  Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution

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a variable time period and				<p>amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected <b>meter-monitor information of said message information</b> with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...</p> <p>... <b>monitor information that identifies what programming</b> is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...</p> <p>Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder,</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	

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outputting said signal;	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	76 or 78.  When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
a control signal detector operatively connected to said storage device for detecting said at least one embedded instruction signal; and	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
a processor operatively connected to said input device,	Column 11 lines 15-17.  Column 11 lines 39-43.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility.  ... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 326 lines 19-20.  Page 328 lines 9-13.  Page 326 lines 28-30.  Page 328 lines 14-16.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station.  ... said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.  ... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.  Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ....
said at least one storage device, and	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.		

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said control signal detector for processing said input user reaction in response to said at least one embedded instruction signal and	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...

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for controlling said at least one storage device to output.	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programing with each other through matrix switch, 75.	Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.	
			Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.	
			Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.	
		If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...	
		to reorganize the order in which programing units are stored on either recorder/player or on both,	Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.	
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D	



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		<p>controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.</p>	<p>Page 331 line 17 to page 334 line 6</p> <p>For example, page 331 lines 17-33.</p>	<p>to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p><i>See generally.</i></p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p>
			<p>For example, page 332 lines 23-31.</p>	<p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p>

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			For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...  In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
			For example, page 334 lines 1-6.	
112. A transmitter station apparatus comprising:	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
an input device for inputting a user reaction to mass medium programming;	Column 11 lines 39-43.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 9-13.	... said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.

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			Page 326 lines 28-30.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
a transmitter for transmitting information to	Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be <b>transmitted</b> to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be <b>transmitted</b> via switch 75 to field distribution system, 93.
a remote station;	Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96, ...	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...
at least one storage device operatively connected to said transmitter for	Column 10 lines 42-43.	... one or more video recorder/players, 76 and 78, ...	Page 324 line 35.	... one or more recorder/players, 76 and 78, ...
	Column 11 lines 66-67.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
			Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...

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	Reference	Language	Reference	Language
storing data and at least one instruction signal	Column 11 lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 2-22.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; to cause said selected recorder, 76 or 78, to turn on and record programming; and to cause matrix switch, 75, to configure its transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78. In so doing, computer, 73, causes said selected recorder, 76 or 78, to record said programming.
	Column 12 lines 57-61.	This particular embodiment describes a transmission facility transmitting only television programming. The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 9-26.	So far this disclosure has described an intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...

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	Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programming ...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations or <b>embedded in</b> television or radio or other <b>programming transmissions</b> ...
			Page 28 lines 26-27.	... <b>monitor information that identifies what programming</b> is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
for a variable time period and	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...

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communicating said data and said at least instruction signal;		Column 11 lines 66-67.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
				Page 333 lines 15-21.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.  Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
	a control signal detector operatively connected to said at least one storage device for detecting said at least one instruction signal; and	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...

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	Column 6 lines 48-50.	This base band signal is then transmitted through separate paths to three separate detector devices.	Page 34 line 35 to page 35 line 1.	This base band signal is then transferred through separate paths to three separate detector devices.
a processor operatively connected to	Column 11 lines 15-17.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility.	Page 326 lines 19-20.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station.
said input device,	Column 11 lines 39-43.	... the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.	Page 328 lines 9-13.	... said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
said control signal, detector, and	Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programming contains.	Page 326 lines 28-30.	... receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98.
said at least one storage device	Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 327 lines 24-31.	Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.
for processing said user reaction in response to said at least one instruction signal and for	Column 11 lines 38-43.	By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the	Page 328 lines 14-16.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ....
			Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73,

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		head end facility should transmit the programming.		determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
			Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
			Page 28 lines 26-27.	... monitor information that identifies what programming is available, ...
			Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
controlling said at least one storage device to communicate at least one of said data to said transmitter.	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
			Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.
		If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of





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				<p>should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p> <p>So far this disclosure has described an</p>
			<p>For example, page 332 lines 23-31.</p> <p>For example, page 333 lines 15-21.</p> <p>For example, page 334 lines 1-6.</p>	
	Column 12 lines 57-61.	This particular embodiment describes a	Page 339 lines 9-26.	

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			transmission facility transmitting only television programing. The facility could also process and transmit radio programing and other electronic data according to the methods described here ...		intermediate transmission station that transmits conventional television programming; however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming ...
113. The apparatus of claim 112, wherein said transmitter includes a telephone connection, said apparatus further comprising:	Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programing to <b>signal processor, 71</b> , and signal processor, 96, ...	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ...	
an auto dialer operatively connected to said telephone connection for initiating communications with	Column 8 lines 25-27.	The controller, 20, governs the operation of all operating elements of the apparatus.	Page 33 lines 18-20.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...	
said remote station.	Column 12 lines 54-56.	The controller, 20, also controls the automatic telephone dialing device, 24, to allow the apparatus to automatically output its own information in accordance with a predetermined sequence and to change telephone numbers dialed as required.	Page 273 lines 6-8.  Page 274 lines 11-13.  Page 337 lines 19-21.	Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number.  Controller, 20, transfers the telephone number, 1-800-CHARGES, to auto dialer, 24, and causes the dialing of said number.  And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively.	

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114. The apparatus of claim 112, wherein said mass medium programming is contained in a signal		Column 10 lines 61-63.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
transmitted from a remote transmitter station, said apparatus further comprising:		Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.	Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
		Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
				Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
				Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.

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a receiver for receiving said signal; and	Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
an output device operatively connected to said receiver for outputting said mass medium programming to said user.	Column 10 lines 40-43.	All of these received transmissions feed into the facility by hard-wire and connect, by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, ...	Page 324 lines 31-35.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, ...
115. The apparatus of claim 114, wherein said control signal detector is operatively connected to said receiver.	Column 10 lines 61-64.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above.	Page 324 lines 23-33.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62. Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire...
	Column 11 lines 1-3.	The other path flows from each distribution amplifier, 63 through 70, individually to	Page 325 lines 24-27.	The other path inputs the transmission of said given receiver/demodulator/ input apparatus,

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<p>Column 11 lines 3-5.</p>	<p>signal processor, 71.</p> <p>Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...</p>	<p>Page 325 line 34 to page 326 line 7.</p> <p>53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, individually to signal processor system, 71.</p> <p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station;...</p>
<p>Column 6 lines 48-50.</p>	<p>This base band signal is then transmitted through separate paths to three separate detector devices.</p>	<p>Page 59 lines 29-33</p> <p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>This base band signal is then transferred through separate paths to three separate detector devices.</p>
<p>116. The apparatus of claim 112, further comprising: a second storage device for storing and communicating said mass medium programming; and an output device operatively connected to said second storage</p>	<p>Column 10 lines 49-52.</p> <p>When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.</p>	<p>Page 325 lines 6-9.</p> <p>When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.</p>
<p>an output device operatively connected to said second storage</p>	<p>Column 11 lines 66-67.</p> <p>Recorder/players, 76 and 78, can communicate programming with each other through matrix switch. 75.</p>	<p>Page 332 lines 24-30.</p> <p>... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder. 76, to the input of</p>

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device				recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
for outputting said mass medium programming to said user.	Column 11 line 67 to Column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary	Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
		controller/computer, 73, can use techniques for reorganizing files stored on multidisk	Page 331 line 17 to page 334 line 6	See generally.

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		units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D--are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
			For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...
			For example, page 333 lines 15-21.	Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder,



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				<p>76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>
117. The apparatus of claim 116, wherein said control signal detector is operatively connected to said second storage device.	Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	<p>Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...</p> <p>This base band signal is then transferred through separate paths to three separate detector devices.</p>
118. The apparatus of claim 116, wherein said control signal detector is operatively connected to	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programming and ...	Page 325 line 34 to page 326 line 7.	<p>At signal processor system, 71, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, is inputted into a dedicated decoder (such as decoders, 27, 28, and 29 in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70; selects SPAM messages in said</p>

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said input device and				Page 59 lines 29-33	transmission that are addresses to ITS apparatus of said intermediate transmission station; ...  A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 6 lines 30-41.	The cable transmission is input simultaneously to switch 1 and mixer 2. The broadcast transmission is input to switch 1. Switch 1 and mixers 2 and 3 are all controlled by local oscillator and switch control 6. The oscillator, 6, is controlled to provide a number of discrete specified frequencies for the particular radio and television channels required. The switch, 1, acts to select the broadcast input or the cablecast input and passes transmissions to mixer 3 which, with the controlled oscillator, 6, acts to select a television frequency of interest that is passed at a fixed frequency to a TV signal decoder, 30.		Page 29 lines 15-26.	The cable transmission is inputted simultaneously to switch, 1, and mixer, 2. The broadcast transmission is inputted to switch, 1. Switch, 1, and mixers, 2 and 3, are all controlled by local oscillator and switch control, 6. The oscillator, 6, is controlled to provide a number of discrete specified frequencies for the particular radio and television channels required. The switch, 1, acts to select the broadcast input or the cablecast input and passes transmissions to mixer, 3, which, with the controlled oscillator, 6, acts to select a television frequency of interest that is passed at a fixed frequency to a TV signal decoder, 30.
	Column 7 lines 47-49.	Buffer/comparator, 8, passes signal words and units not identified as requiring decryption directly to processor or monitor, 12.		Page 30 lines 29-30.	Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12.
said at least one instruction signal	Column 7 lines 50-58.	Processor or monitor, 12, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, 14, for further processing or both. If a signal or signals are to be passed externally, processor unit, 12, identifies, in a pre-determined fashion, the external equipment		Page 31 lines 10-18.	Controller, 12, receives the signals inputted from buffer/comparator, 8, and decryptor, 10; analyzes said signals in a predetermined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both. If a signal or signals are to be transferred externally, in a predetermined fashion controller, 12, identifies the external apparatus to which the

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	Column 11 lines 3-14.	<p>to which the signal or signals are <b>addressed</b> and passes them to appropriate jack ports for external transmission.</p> <p>Signal processor, <b>71</b>, has means, described above, to identify and separate the instruction and information signals from their associated programming and pass them, along with information identifying the channel source of each signal, externally to code reader, <b>72</b>. ...</p> <p>Code reader, <b>72</b>, passes the received signals, with channel identifiers, to cable program controller and computer, <b>73</b>.</p>	<p>Page 325 line 34 to page 326 line 11.</p> <p>Page 326 lines 16-18.</p>	<p>signal or signals are <b>addressed</b> and transfers them to the appropriate port or ports for external transmission.</p> <p>At signal processor system, <b>71</b>, which is a system as shown in Fig. 2D, the outputted transmission of each distribution amplifier, <b>63, 64, 65, 66, 67, 68, 69, or 70</b>, is inputted into a dedicated decoder (such as decoders, <b>27, 28</b>, and <b>29</b> in Fig. 2D) that processes continuously the inputted transmission of said distribution amplifier, <b>63, 64, 65, 66, 67, 68, 69, or 70</b>; selects SPAM messages in said transmission that are addresses to ITS apparatus of said intermediate transmission station, automatically adds, in a predetermined fashion source mark information that identifies said associated distribution amplifier, <b>63, 64, 65, 66, 67, 68, 69, or 70</b>; and transfers said selected messages, with said source mark information, to code reader, <b>72</b>.</p> <p>Code reader, <b>72</b>, buffers and passes the received SPAM message information, with source mark information, to cable program controller and computer, <b>73</b>.</p>
119. The method of claim 96, wherein said selected at least one first location includes a memory location at said at least one storage device and said step of communicating said at least one first instruction signal further comprises:	Column 11 lines 60-61.	... controller/computer, <b>73</b> , selects a video recorder/player, <b>76</b> or <b>78</b> , ...	Page 329 lines 13-15.	So determining causes computer, <b>73</b> , ... to select a video recorder/player, <b>76</b> or <b>78</b> ; ...

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communicating at least a portion of said at least one first instruction signal to said memory location.	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 line 2-20.	<p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of programming that is scheduled to be recorded upon receipt and transmitted to the field system, 93, at a later time. So determining causes computer, 73, in its preprogrammed fashion, to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p>
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	

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120. The method of claim 119, wherein said device contains at least one of a disk and a tape and said memory location is contained	Column 20 lines 54-58.	when signal processor, 200, transfers the data in its data recorder, 16, via telephone to a remote site,	Page 28 lines 25-35.	[Signal processor in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
		that site can determine for billing purposes that the recipe was,	Page 44 lines 26-30.	... meter-monitor segments. Said segments contain meter information and/or monitor information, and the information ... causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations ...
			Page 471 lines 26-31.	Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of ... meter-monitor information,....
			Page 473 lines 3-8.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of ... meter-monitor information including ...
		first, ordered	Page 472 lines 23-27 with	Executing said instructions also causes controller, 20, to initiate a particular signal record of meter information at the buffer, 14, of signal processor, 200, which record contains particular program unit information

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<p>within said at least one of said disk and said tape.</p>	<p>Column 16 lines 47-50.</p>	<p>and, second, delivered.</p> <p>Prerecorded video cassettes and videodiscs could also contain unique embedded codes that would identify their usage (and could also transfer instructions to other external equipment).</p>	<p>Page 471 lines 14-16.</p> <p>Page 473 line 29 to Page 474 line 1.</p> <p>Page 321 lines 1-5.</p> <p>Page 476 lines 18-22.</p>	<p>and TV567# information.</p> <p>Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, ... --enters TV567# ...</p> <p>Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe- ... instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.</p> <p>Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming....</p> <p>... this method enables any subscriber who records the transmission of said programming at a recorder/player, 217, to access the embedded information of said instructions automatically in this fashion whenever the recorded transmission of said programming is played back....</p> <p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred. ....</p>

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			Page 473 lines 14-17.	
121. The method of claim 120, wherein said television signal, said television programming, and said at least one first instruction signal are stored	Column 11 lines 64-65.  Column 19 lines 43-44.  Column 11 lines 57-60.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.  ... instruction signals embedded in the "Wall Street Week" programming transmission.  Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 15-16.  Page 21 lines 23-24.  Page 329 line 2-20.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...  ... instruction signals embedded in the "Wall Street Week" programming transmission.  Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...

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					<p>Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.</p>
122. The method of claim 121, wherein only some of an audible portion of said television programming prompts for input of said subscriber reaction, said method further comprising the steps of:	Column 20 lines 19-23.	Halfway through the program, the host says, "If you are interested in cooking what we are preparing here and want a printed copy of the recipe for a charge of only 10 cents, press 567 on your Widget Signal Generator and Local Input."	Page 471 lines 6-13.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#".	
selecting at least one second location to which to communicate said at least said first instruction signal, said	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission	



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at least one second location being within said television signal but outside said audible portion; and				<p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 21 lines 23-24.</p> <p>Page 14 lines 6-15.</p>	<p>consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television [signals] may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz.</p>
	<p>Column 19 lines 43-44.</p> <p>Column 4 lines 18-26.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz.</p>		<p>Page 21 lines 23-24.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p>
embedding said at least one first instruction signal in said at least one second location.	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.		Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.

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	Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.	<p>Page 22 lines 1-6.</p> <p>Page 14 line 35 to page 15 line 2.</p> <p>Page 36 lines 2-3.</p> <p>Page 36 lines 19-20.</p>	<p>... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.</p> <p>Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.</p> <p>... processes signal information embedded in an inputted radio frequency.</p> <p>... processes signal information embedded in a frequency other than a television or radio frequency.</p>
123. The method of claim 122, wherein said at least said first instruction signal is embedded in said at least one second location	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio <b>originating</b> the programming ...	<p>Page 59 lines 29-33.</p> <p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program <b>originating</b> studio, ...</p> <p>The second message is of the information</p>

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<p>before said television signal is stored, wherein said television programming, and said at least said first instruction signal are stored</p>	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.
	Column 20 lines 48-49.	... and thence to printer, 221, for printing.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 475 lines 1-2.	Receiving said output information causes printer, 221, to print the information of said specific recipe and list.
			Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
				... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 11 lines 64-65.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...
	Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming	Page 329 line 2-20.	Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ...

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concurrently on said one of said at least one of said tape and said disk.		should be recorded for delayed transmission, ...		transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
124. The method of claim 121, further comprising the steps of: selecting at least one second location to which to communicate said at least one first instruction signal, said at least one second location being within said television signal but outside a portion	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...

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containing said video images to be displayed; and		Column 19 lines 43-44.  Column 4 lines 18-22.	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.</p>	Page 21 lines 23-24.  Page 14 lines 6-11.	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.</p>
embedding said at least one first instruction signal in said at least one second location.		Column 19 lines 43-44.  Column 4 lines 18-22.	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.</p>	Page 21 lines 23-24.  Page 14 lines 6-11.	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.</p>
125. The method of claim 124, wherein said	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio		Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates

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at least one first instruction signal is embedded in said at least one second location			<b>originating the programming ...</b>		said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
				<p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 324 lines 8-17.</p>	<p>At this point, an instruction signal is generated at said program <b>originating</b> studio, ...</p> <p>The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of <b>intermediate</b> transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.</p> <p>... to cause said selected recorder, 76 or 78, to turn on and record programming, ...</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ...</p> <p>Receiving said message causes computer, 73,</p>
before said television signal is stored, wherein said television programming and said at least one first instruction signal are stored	Column 10 lines 15-20.		The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an <b>intermediate</b> transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.		
	Column 11 lines 64-65.		... instructs the recorder/player, <b>76 or 78</b> , to turn on and record the programming.	<p>Page 329 line 15-16.</p> <p>Page 329 line 2-20.</p>	



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			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.  ... an instruction signal is ... embedded in the programming transmission, and transmitted.  ... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
is stored, wherein said television programming and said at least one first instruction signal are stored	Column 19 lines 62-63  Column 11 lines 64-65.	... and [the instruction signal] is transmitted in the programming transmission.  ... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 25 line 34 to page 26 line 1.  Page 329 line 15-16.	... instruction signals embedded in the "Wall Street Week" programming transmission.  Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
concurrently at said at least one storage device.	Column 19 lines 43-44.  Column 11 lines 57-60.	... instruction signals embedded in the "Wall Street Week" programming transmission.  Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 21 lines 23-24.  Page 329 line 2-20.	



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127. The method of claim 126, comprising the steps of: selecting a second location to which to communicate said at least one first instruction signal,	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
			Page 25 lines 34-35.	At this point, an instruction signal is generated at said program originating studio, ...
			Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.  ... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	Receiving said output information causes printer, 221, to print the information of said specific recipe and list.
	Column 20 lines 48-49.		Page 475 lines 1-2.	

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... and thence to printer, 221, for printing.				
said at least one second location being within said television signal but outside an audible portion; and	Column 4 lines 22-25.	In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.	Page 14 lines 11-14.	In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.
embedding said at least one first instruction signal in said at least one second location.	Column 19 lines 43-44.  Column 4 lines 22-25.	... instruction signals embedded in the "Wall Street Week" programming transmission.  In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.	Page 21 lines 23-24.  Page 14 lines 11-14.	... instruction signals embedded in the "Wall Street Week" programming transmission.  In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.
128. The method of claim 127, wherein said at least one first instruction signal is embedded in said at least one second location at said selected at least one time.	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.  Page 25 lines 34-35.  Page 90 lines 4-7.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.  At this point, an instruction signal is generated at said program originating studio, ...  The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.

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	<p>Column 19 lines 43-44.</p> <p>Column 4 lines 22-25.</p> <p>Column 19 lines 62-63</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.</p> <p>... and [the instruction signal] is transmitted in the programming transmission.</p>	<p>20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 21 lines 23-24.</p> <p>Page 14 lines 11-14.</p> <p>Page 25 line 34 to page 26 line 1.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.</p> <p>... an instruction signal is ... embedded in the programming transmission, and transmitted.</p>
129. The method of claim 126, further comprising the step of: selecting at least one second location to which to communicate said at least one first instruction signal, said at least one second location being within said television signal but outside a portion containing said video images to be displayed; and	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...

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	<p>Column 19 lines 43-44.</p> <p>Column 4 lines 18-22.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.</p>	<p>Page 21 lines 23-24.</p> <p>Page 14 lines 6-11.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.</p>
<p>embedding said at least one first instruction signal in said selected at least one first location.</p>	<p>Column 19 lines 43-44.</p> <p>Column 4 lines 18-22.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.</p>	<p>Page 21 lines 23-24.</p> <p>Page 14 lines 6-11.</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.</p>
<p>130. The method of claim 129, wherein said at least one first instruction signal is embedded in said selected at least one first location at said time.</p>	<p>Column 19 lines 60-62.</p>	<p>At this point, an instruction signal is generated in the television studio originating the programming ...</p>	<p>Page 59 lines 29-33.</p> <p>Page 25 lines 34-35.</p>	<p>A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.</p> <p>At this point, an instruction signal is generated at said program originating studio, ...</p>

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				Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.	The second message is of the information associated with the second combining synch command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.  ... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 19 lines 43-44.  Column 4 lines 18-22.	... instruction signals embedded in the "Wall Street Week" programming transmission.  In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.		Page 21 lines 23-24.  Page 14 lines 6-11.	In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.
	Column 19 lines 62-63	... and [the instruction signal] is transmitted in the programming transmission.		Page 25 line 34 to page 26 line 1.	... an instruction signal is ... embedded in the programming transmission, and transmitted.
131. The method of claim 96, wherein said first location includes a second location in said television signal and	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...		Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ...

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said step of communicating said at least one first instruction signal further comprises the step of:	Column 19 lines 43-44.	... instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
	Column 4 lines 18-22.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.	Page 14 lines 6-11.	In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.
	Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The Information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Column 11 lines 57-64.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, controller/ computer, 73, selects a video recorder/player, 76 or 78, in	<p>Page 25 lines 34-35.</p> <p>Page 90 lines 4-7. Applicants teach this as the composition of the instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 329 line 2-20.</p>	<p>At this point, an instruction signal is generated at said program originating studio, ...</p> <p>The second message is of the information associated with the second combining synchronizing command. Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information and the added source mark information of said message identifies distribution amplifier, 67. Receiving said message causes computer, 73, to determine, in a predetermined fashion, that said "code" information matches particular preprogrammed schedule information of</p>



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	Reference	Language	Reference	Language
	<p>Column 19 lines 43-44.</p> <p>Column 4 lines 18-22.</p> <p>Column 19 lines 62-63</p>	<p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.</p> <p>... and [the instruction signal] is transmitted in the programming transmission.</p>	<p>instruction signal of page 25 line 34. See page 26 lines 1-4 and 20-28, page 89 lines 3-6, and page 90 lines 4-11.</p> <p>Page 21 lines 23-24.</p> <p>Page 14 lines 6-11.</p> <p>Page 25 line 34 to page 26 line 1.</p>	<p>header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205.</p> <p>... instruction signals embedded in the "Wall Street Week" programming transmission.</p> <p>In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.</p> <p>... an instruction signal is ... embedded in the programming transmission, and transmitted.</p>
132. The method of claim 131, wherein said device includes a plurality of storage locations, at least a portion of said television programming is communicated from a first of said plurality of storage locations to a second of said plurality of storage locations,	Column 11 lines 66 to Column 12 line 8.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	<p>Page 332 lines 24-30.</p> <p>Page 333 lines 15-21.</p>	<p>... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y.</p>



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and said step of storing further comprises the step of:		If controller/ computer, 73, determines at any time that it is necessary	Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...
		to reorganize the order in which programming units are stored on either recorder/player or on both,	Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
			Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
		controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.	Page 331 line 17 to page 334 line 6  For example, page 331 lines 17-33.	<i>See generally.</i>  Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
				<p>recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...</p> <p>Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program unit D. ...</p> <p>Computer, 73, causes recorder, 78, to move forward or rewind to the start of program unit Y; causes recorder, 76, to rewind to the start of the available space; and causes switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder</p>
			<p>For example, page 332 lines 23-31.</p>	
			<p>For example, page 333 lines 15-21.</p>	
			<p>For example, page 334 lines 1-6.</p>	

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
storing said television signal, said television programming, and said at least one first instruction signal at said second of said plurality of storage locations concurrently.	Column 12 lines 1-3.	... to reorganize the order in which programing units are stored on either recorder/player or on both, ...	Page 331 lines 16-25.  Page 334 lines 1-6.  Page 21 lines 23-24.	because unit D is scheduled to play on the same channel immediately after Y.  Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.  In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.  ... instruction signals embedded in the "Wall Street Week" programming transmission.
133. The method of claim 132, wherein said	Column 11 lines 66-67.	Recorder/players, 76 and 78, can communicate programming with each other	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
at least one storage device includes a plurality of storage devices, a first of said plurality of storage devices contains said first of said plurality of storage locations, and a second of said plurality of storage devices contains said second of said plurality of storage locations.	Column 12 lines 1-3.	through matrix switch, 75.  ... to reorganize the order in which programming units are stored on either recorder/player or on both, ...	Page 333 lines 15-21.  Page 331 lines 16-25.  Page 334 lines 1-6.	<p>the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.</p> <p>Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...</p> <p>Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.</p> <p>In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language

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134. The method of claim 133, further comprising the step of: selecting at least one of said plurality of storage devices.	Column 11 lines 60-61.	... controller/computer, 73, selects a video recorder/player, 76 or 78, ...	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ....
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135. The method of claim 132, wherein said television signal, said television programming, and said at least one first instruction signal are stored concurrently at said first of said plurality of storage locations.	Column 11 lines 64-65.  Column 19 lines 43-44.  Column 11 lines 57-60.	... instructs the recorder/player, 76 or 78, to turn on and record the programming.  ... instruction signals embedded in the "Wall Street Week" programming transmission.  Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 15-16.  Page 21 lines 23-24.  Page 329 line 2-20.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...  ... instruction signals embedded in the "Wall Street Week" programming transmission.  Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73,
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Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
				to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
136. The method of claim 132, wherein said at least one storage device further comprises a network having a plurality of stations,	Column 15 lines 60-62.  Column 10 lines 15-20.	[The signals for which the decoders are monitoring] may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.  The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	Page 49 lines 26-28.  Page 50 lines 1-4.  Page 324 lines 8-17.	Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:  ... origins of transmissions (eg., network so source stations, broadcast stations, cable head end stations); dates and times ...  The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
a first of said plurality of stations containing said first of said plurality of storage locations, and	Column 17 lines 47-53.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 390 lines 30-35.	transmit a single programming transmission to cable systems that cablecast many channels simultaneously.  Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.  Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. FIGS. 3A, 3B, and 3C illustrate the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.  ... instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 396 lines 8-10.   Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.  ... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
	Column 11 lines 64-65.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 329 line 15-16.  Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.  Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
	Column 17 lines 47-53.			... instructions causes controller, 20, ... to
a second of said plurality of stations containing said second of said plurality of storage locations.				

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
	Column 19 lines 25-27.	... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	<p>Page 396 lines 8-10.</p> <p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>	<p>switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p>
137. The method of claim 136, wherein said step of communicating comprises a function performed by at least one of said plurality of stations based on a schedule.	<p>Column 10 lines 15-20.</p> <p>Column 11 lines 38-43.</p>	<p>The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.</p> <p>By comparing identification signals on the incoming programming with the programming schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine</p>	<p>Page 324 lines 8-17.</p> <p>Page 327 line 35 to page 328 line 13.</p>	<p>The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.</p> <p>Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has</p>



Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
		when and on what channel or channels the head end facility should transmit the programming.		<p>been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.</p> <p>By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.</p> <p>SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....</p> <p>... monitor information that identifies what programming is available, ...</p> <p>Meter-monitor segments contain meter information and/or monitor information.</p>
			Page 84 lines 26-28.	
			Page 28 lines 26-27.	
			Page 49 lines 26-27.	
138. The method of claim 96, wherein	Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the	Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
information contained in said television signal is operative to communicate an offer of at least one of a		multi-channel system.	<p>Page 248 lines 22-26 from example #5.</p> <p>Page 250 lines 13-16 from example #5.</p> <p>Page 252 lines 15-35 from example #5.</p>	<p>apparatus of the signal processor, 200, of the station of Fig. 7 and 7C ...</p> <p>Via a conventional multi- channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.</p> <p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p>

Claim Language	Support to parent application filed November 3, 1981	Reference	Language
		Reference	Language
		Page 267 lines 20-28 from example #5.	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program-message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, ... The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information ... and said ... enable-WSW-on-CC13 ... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and determines a match with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20</p>
	Column 19 lines 20-27.	Page 436 line 9 to page 437 line 6.	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
				<p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;</p> <p>...</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217, ...</p> <p>...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>... instructions causes controller, 20, ... to switch power on to video recorder/player, 217, ...</p> <p>... controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.</p> <p>Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming....</p> <p>...this method enables any subscriber who records the transmission of said programming</p>
			Page 439 lines 9-15.	
	Then, in a predetermined fashion, microcomputer, 205, may		Page 439 lines 9-15	
			Page 295 lines 6-8.	
	instruct tuner, 214, to switch box, 201, to channel X		Page 445 lines 24-27.	
	and may instruct and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...		Page 446 lines 18-23.	

Claim Language		Support to parent application filed November 3, 1981.		Support to instant specification.	
		Reference	Language	Reference	Language
product and			<p>... and [microcomputer, 205,] may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...</p>		<p>at a recorder/player, 217, to access the embedded information of said instructions automatically in this fashion whenever the recorded transmission of said programming is played back....</p>
	Column 19 lines 25-27.			Page 445 lines 24-27.	<p>At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred....</p>
			Prerecorded video cassettes and videodiscs could also contain unique embedded codes that would identify their usage (and could also transfer instructions to other external equipment).	Page 446 lines 18-23.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
	Column 16 lines 47-50.			Page 476 lines 18-22.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to correct errors ... by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus ...
				Page 473 lines 14-17.	
				Page 26 lines 1-8.	Then the host says, "And here is what your

Claim Language	Support to parent application filed November 3, 1981. Reference	Language	Reference	Support to instant specification. Language
a service.	Column 19 lines 63-66.	<p>This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,</p> <p>Then the host says, "And here is what your portfolio did."</p> <p>The viewer then sees a microcomputer</p>	<p>Page 37 line 26 to page 38 line 8.</p> <p>Page 25 lines 33-34. Page 26 lines 8-11.</p>	<p>portfolio did."</p> <p>TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance ...</p>

Claim Language	Support to parent application filed November 3, 1981.		Support to instant specification.	
	Reference	Language	Reference	Language
	Column 19 lines 59-60.  Column 19 line 67 to column 20 line 1.	generated graphic of his own stocks' performance ...		

**APPENDIX B**

**PATENTABLE SUBJECT MATTER OF  
INSTANT CLAIMS OVER  
APPLICANTS' PATENTED CLAIMS**



The following charts provide a claim by claim comparison of each of Applicants' instant independent claims to of Applicant's independent patented claims<sup>32</sup> as specified in Appendix A of the Office Action. The Office Action stated in paragraphs 22-23 that claims 3-138 are rejected under the judicially created doctrine of obviousness-type double patenting over any single claim or combination of claims of every claim of Applicants' six issued patents. However, the Office Action only compared one of Applicants' patented claims to Applicants' instant independent claims<sup>33</sup>. There was no other analysis to any other of Applicants' patented claims with those of the instant application.

Applicants provide an analysis in Appendix B to show that the instant independent claims are patentably distinct from the specified patented independent claims in Appendix A of the Office Action.

For the Examiner's convenience only, Applicants have underlined portions in the left columns of the instant independent claims to designate the clearest and most succinct portions of the claim language that Applicants believe are patentably distinct from the patented independent claims in the right columns. Applicants assert that any lack of underlining in the instant independent claims in no way indicates these portions are common to the subject matter of the patented claims.

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<sup>32</sup> Claim 1 of U.S. Pat. No. 4,694,490.

<sup>33</sup> Applicants instant independent claims 3, 8, 13, 18, 19, 33, 38, 43, 48, 96, 101, 106, 111 & 112.

*Instant Independent Claims Patentable Subject Matter over Applicants' Patented Claims*

Application Claim 3	U.S. Pat. No. 4,694,490, Claim 1
<p>3. A method of processing signals to control a presentation, said method comprising the steps of:</p> <p><u>receiving a television signal containing television programming and communicating said television signal to a storage device;</u>  <u>receiving a first instruct signal which is effective to instruct a computer at a user station to supplement or complete said television programming at an output device;</u>  <u>selecting one of:</u>  <u>(1) a time at which to communicate said first instruct signal; and</u>  <u>(2) a location to which to communicate said first instruct signal;</u>  <u>communicating said first instruct signal at said selected time or to said selected location; and</u>  <u>storing said television signal and said instruct signal at said storage device.</u></p>	<p>1. A method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of:</p> <p>transmitting a video signal containing a television program signal to said receivers,  transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed,  receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations,  detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.</p>
Application Claim 8	U.S. Pat. No. 4,694,490, Claim 1
<p>8. A method of generating and encoding signals to control a presentation comprising the steps of:</p> <p><u>receiving and storing a program that contains video information;</u>  <u>receiving an instruction, said instruction having effect to instruct a user station processor to generate or output information to supplement or complete said program;</u></p>	<p>1. A method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of:</p> <p>transmitting a video signal containing a television program signal to said receivers,  transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed,</p>

*Instant Independent Claims Patentable Subject Matter over Applicants' Patented Claims*

<u>encoding said instruction, said step of encoding translating said instruction to a first control signal with said effect; and</u> <u>storing said first control signal in conjunction with said program.</u>	receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations, detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.
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Application Claim 13	U.S. Pat. No. 4,694,490, Claim 1
13. A method of processing signals in a system of stations including at least one transmitter station and at least one receiver station to control a mass medium programming presentation comprising the steps of:  <u>receiving a signal containing unit of mass medium programming and communicating said signal to a storage device;</u> <u>receiving one or more instruct signals which are effective at a broadcast or cablecast transmitter station to communicate said signal to a transmitter and at a receiver station to store said signal or present information contained in said signal at an output device; communicating said one or more instruct signals to said storage device; and</u> <u>storing said one or more instruct signals at said storage device in association with said data file or unit of mass medium programming.</u>	1. A method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of: transmitting a video signal containing a television program signal to said receivers, transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed, receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations, detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.

Application Claim 18	U.S. Pat. No. 4,694,490, Claim 1
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*Instant Independent Claims Patentable Subject Matter over Applicants' Patented Claims*

<p>18. <u>An apparatus for providing a mass medium programming presentation comprising: an output device for outputting a mass medium programming presentation to a user; a storage device operatively connected to said output device for storing and communicating mass medium program materials and one or more embedded instruct signals effective at the apparatus to supplement or complete said mass medium program materials based on stored data; a detector operatively connected to said storage device for detecting said one or more embedded instruct signals; and a processor operatively connected to said storage device, said output device, and said detector for processing data and controlling said storage device and said output device to output said mass medium program materials and the supplemental or completion information in accordance with said embedded instruct signals.</u></p>	<p>1. A method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of: transmitting a video signal containing a television program signal to said receivers, transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed, receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations, detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.</p>
<p align="center"><b>Application Claim 19</b></p> <p>19. <u>A transmitter station apparatus comprising: a transmitter for transmitting a mass medium programming signal; a storage device operatively connected to said transmitter for storing and outputting mass medium program materials and one or more instruct signals effective at a receiver station apparatus to supplement or complete said mass medium program materials based on stored data; a detector operatively connected to said storage device for detecting said one or more instruct signals; and a computer operatively connected to said storage device and said signal detector for controlling communication of said one or more instruct signals from said storage device to said transmitter.</u></p>	<p align="center"><b>U.S. Pat. No. 4,694,490, Claim 1</b></p> <p>1. A method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of: transmitting a video signal containing a television program signal to said receivers, transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed, receiving said video signal at a plurality of receiver</p>

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	<p>stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations,</p> <p>detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.</p>
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Application Claim 33	U.S. Pat. No. 4,694,490, Claim 1
<p>33. A method of processing signals to control at least one of a television and a media presentation comprising the steps of:</p> <p><u>receiving a television signal containing first television programming and communicating said television signal and said first television programming to a storage device, said first television programming including audio;</u></p> <p><u>receiving processor instructions which are capable of instructing a computer to present, with said first television programming at at least one output device, information to at least one of complete and supplement said first television programming;</u></p> <p><u>selecting at least one of:</u></p> <p><u>(1) at least one first time at which to communicate said processor instructions; and</u></p> <p><u>(2) at least one first location to which to communicate said processor instructions;</u></p> <p><u>communicating said processor instructions to said storage device based on said step of selecting; and</u></p> <p><u>storing said television signal, said first television programming, and said processor instructions at said storage device concurrently.</u></p>	<p>1. A method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of:</p> <p>transmitting a video signal containing a television program signal to said receivers,</p> <p>transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed,</p> <p>receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations,</p> <p>detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.</p>

Application Claim 38	U.S. Pat. No. 4,694,490, Claim 1
38. A method of embedding processor instructions	1. A method of communicating television program

***Instant Independent Claims Patentable Subject Matter over Applicants' Patented Claims***

<p>to control a presentation comprising the steps of:</p> <p><u>receiving a program that contains video information, said video information including at least three video images to be outputted at a subscriber station in a predetermined sequence;</u>  <u>receiving said processor instructions and at least one control instruction, said processor instructions capable of instructing a subscriber station apparatus to at least one of process and output subscriber specific information pertaining to said program, said at least one control instruction capable of causing said subscriber station apparatus to operate under control of said processor instructions;</u>  <u>commencing communication of said program to a storage device;</u>  <u>embedding said processor instructions and said at least one control instruction in a signal containing said program while said signal and said program are being communicated; and</u>  <u>storing said signal containing said program, said embedded processor instructions, and said embedded at least one control instruction in said storage device.</u></p>	<p>material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of:</p> <p>transmitting a video signal containing a television program signal to said receivers,  transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed,  receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations,  detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.</p>
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Application Claim 43	U.S. Pat. No. 4,694,490, Claim 1
<p>43. A method of processing signals to control a mass medium programming presentation comprising the steps of:</p> <p><u>receiving a signal containing at least one of data and mass medium programming to be outputted in said mass medium programming presentation and communicating said signal to a storage device;</u>  <u>receiving processor instructions which are capable of controlling a receiver station to present first information contained in said signal at an output device and to</u></p>	<p>1. A method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of:</p> <p>transmitting a video signal containing a television program signal to said receivers,  transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed,  receiving said video signal at a plurality of receiver stations and displaying said program material on the</p>

*Instant Independent Claims Patentable Subject Matter over Applicants' Patented Claims*

<p><u>process a subscriber reaction to second information contained in said signal;</u>  <u>communicating said processor instructions to said storage device;</u>  <u>receiving at least one first instruction signal which is effective at one of a broadcast and a cablecast transmitter station to communicate said signal and said processor instructions to a transmitter;</u>  <u>communicating said at least one first instruction signal to said storage device; and</u>  <u>storing said at least one first instruction signal and said processor instructions at said storage device in association with said at least one of said data and said mass medium programming.</u></p>	<p>video receivers of selected ones of said plurality of receiver stations,  detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.</p>
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Application Claim 48	U.S. Pat. No. 4,694,490, Claim 1
<p>48. <u>A transmitter station apparatus comprising:</u>  <u>a transmitter for transmitting a mass medium programming signal comprising mass medium program materials, downloadable code, and at least one instruction signal;</u>  <u>a storage device operatively connected to said transmitter for storing and outputting said mass medium program materials, said downloadable code, and said at least one instruction signal;</u>  <u>a control signal detector operatively connected to said storage device for detecting said at least one instruction signal; and</u>  <u>a computer operatively connected to said storage device and said control signal detector for controlling communication of one of said mass medium program materials and said downloadable code on the basis of said at least one instruction signal.</u></p>	<p>1. A method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of:  transmitting a video signal containing a television program signal to said receivers,  transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed,  receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations,  detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.</p>

Application Claim 96	U.S. Pat. No. 4,694,490, Claim 1
<p>96. A method of processing signals to control a multimedia presentation comprising the steps of:</p>	<p>1. A method of communicating television program material to a multiplicity of receiver stations each of</p>

<p><u>receiving a television signal containing television programming and communicating said television signal and said television programming to at least one storage device, said television programming comprising audio and a plurality of video images to be displayed in at least one predetermined sequence, said at least one predetermined sequence including full motion video; receiving at least one first instruction signal which is capable of instructing a computer to conduct a procedure of at least one of inputting and responding to a subscriber reaction to said television programming; selecting at least one of:</u></p> <p><u>(1) at least one time at which to communicate said first instruction signal; and</u></p> <p><u>(2) at least one first location to which to communicate said first instruction signal;</u></p> <p><u>communicating said at least one first instruction signal at least one of (i) at said at least one selected time and (ii) to said selected at least one first location, based on said step of selecting; and</u></p> <p><u>storing said television signal, said television programming, and said at least one first instruction signal at said at least one storage device concurrently.</u></p>	<p>which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of:</p> <p>transmitting a video signal containing a television program signal to said receivers,</p> <p>transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed,</p> <p>receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations,</p> <p>detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.</p>
<p align="center"><b>Application Claim 101</b></p> <p>101. A method of encoding signals to control a presentation comprising the steps of:</p> <p><u>receiving and storing a program that contains video information, said video information including at least three full-screen video images to be outputted at a subscriber station in a predetermined sequence;</u></p> <p><u>receiving at least one first instruction which is capable of instructing at least one processor at said subscriber station to at least one of input and respond to a viewer</u></p>	<p align="center"><b>U.S. Pat. No. 4,694,490, Claim 1</b></p> <p>1. A method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of:</p> <p>transmitting a video signal containing a television program signal to said receivers,</p> <p>transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed,</p> <p>receiving said video signal at a plurality of receiver stations and displaying said program material on the</p>



*Instant Independent Claims Patentable Subject Matter over Applicants' Patented Claims*

<u>reaction to said program;</u> <u>encoding said at least one first instruction, said step of</u> <u>encoding translating said at least one first instruction to a</u> <u>control signal, said control signal for directing said at</u> <u>least one processor at said subscriber station; and</u> <u>storing said control signal from said step of encoding in</u> <u>conjunction with said program.</u>	video receivers of selected ones of said plurality of receiver stations, detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.
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Application Claim 106	U.S. Pat. No. 4,694,490, Claim 1
106. A method of processing signals to control a mass medium programming presentation comprising the steps of:  <u>receiving a signal containing one of a data file and mass medium programming and communicating said signal to a storage device;</u> <u>receiving at least one first instruction signal which is capable of controlling a subscriber station to one of input and respond to a subscriber reaction to information contained in said signal and to communicate at least a portion of said signal to a transmitter;</u> <u>communicating said at least one first instruction signal to said storage device; and</u> <u>storing said at least one first instruction signal at said storage device in association with said one of said data file and said mass medium programming.</u>	1. A method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of: transmitting a video signal containing a television program signal to said receivers, transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed, receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations, detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.

Application Claim 111	U.S. Pat. No. 4,694,490, Claim 1
111. <u>A mass medium programming output apparatus comprising:</u>	1. A method of communicating television program material to a multiplicity of receiver stations each of

*Instant Independent Claims Patentable Subject Matter over Applicants' Patented Claims*

<p><u>an input device for inputting a user reaction to a mass medium programming presentation;</u>  <u>at least one storage device operatively connected to said input device for storing a mass medium programming signal containing (i) mass medium program materials and (ii) at least one embedded instruction signal for a variable time period and outputting said signal;</u>  <u>a control signal detector operatively connected to said storage device for detecting said at least one embedded instruction signal; and</u>  <u>a processor operatively connected to said input device, said at least one storage device, and said control signal detector for processing said input user reaction in response to said at least one embedded instruction signal and for controlling said at least one storage device to output.</u></p>	<p>which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of:  transmitting a video signal containing a television program signal to said receivers,  transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed,  receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of receiver stations,  detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.</p>
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Application Claim 112	U.S. Pat. No. 4,694,490, Claim 1
<p>112. A transmitter station apparatus comprising:  <u>an input device for inputting a user reaction to mass medium programming ;</u>  <u>a transmitter for transmitting information to a remote station;</u>  <u>at least one storage device operatively connected to said transmitter for storing data and at least one instruction signal for a variable time period and communicating said data and said at least instruction signal;</u>  <u>a control signal detector operatively connected to said at least one storage device for detecting said at least one instruction signal; and</u>  <u>a processor operatively connected to said input device, said control signal detector, and said at least one storage device for processing said user reaction in response to said at least one instruction signal and for controlling said at least one storage device to communicate at least one of said data to said transmitter.</u></p>	<p>1. A method of communicating television program material to a multiplicity of receiver stations each of which includes a television receiver and computer, the computers being adapted to generate and transmit overlay signals to their associated television receivers, said overlay signals causing the display of user specific information related to said program material, and with at least some of said computers being programmed to process overlay modification control signals so as to modify the overlay signals transmitted to their associated receivers, each of said computers being programmed to accommodate a specific user application, comprising the steps of:  transmitting a video signal containing a television program signal to said receivers,  transmitting an instruct-to-overlay signal to said receiver stations at a time when the corresponding overlay is not being displayed,  receiving said video signal at a plurality of receiver stations and displaying said program material on the video receivers of selected ones of said plurality of</p>

*Instant Independent Claims Patentable Subject Matter over Applicants' Patented Claims*

	<p>receiver stations, detecting the presence of said instruct-to-overlay signal at said selected receiver stations and coupling said instruct-to-overlay signal to the computers associated with the video receivers of said selected stations, and causing said last named computers to generate and transmit their overlay signals to their associated television receivers in response to said instruct-to-overlay signal, thereby to present a display at the selected receiver stations including the television program material and the related computer generated overlay, the overlays displayed at a multiplicity of said receiver stations being different, with each display specific to a specific user.</p>
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**APPENDIX C**

**CORRELATION CHARTS**  
**BETWEEN**  
**THE PARENT 1981 PRIORITY SPECIFICATION**  
**(as referenced to column and line numbers of U.S. Pat. No. 4,694,490)**  
**AND**  
**THE INSTANT 1987 PRIORITY SPECIFICATION**

**I. COLUMN 1**

Column 1 lines 1-22.	<p><b>SIGNAL PROCESSING APPARATUS AND METHODS</b></p> <p><b>BACKGROUND OF THE INVENTION</b></p> <p>At the present time, vast amounts of programing are transmitted through various media throughout the United States which programing is handled with significant degrees of manual processing as different, discrete units of programing transmitted on single channel systems. Broadcasters and cablecasters transmit programing with the expectation that viewers in one place tune to only onechannel at a time.</p> <p>On occasion and on a limited scale, the co-ordination of two media and two channels has occurred. Such co ordination has taken the form of stereo simulcasts where one local television station broadcasts a program, generally of classical music, and simultaneously, a local radio station broadcasts the same music in stereo. But such simulcasts require significant degrees of manual processing at both the points of origination and reception.</p>	Page 7 lines 7-12.	[The prior art] has no capacity for coordinating the programming content transmitted by any given peripheral system with any other programming transmitted to a television receiver. It has no capacity for controlling two separate systems such as, for example, an automatic radio and television stereo simulcast.
Column 1 lines 23-28.	Today great potential exists for a significant increase in the scope and scale of multimedia and multichannel presentations. This increase is desirable because it will increase variety and add substantially to the richness of presentations as regards both entertainment and the communications of ideas and information.	Page 2 lines 20-23.	Unlocking this potential is desirable because these new media will add substantial richness and variety to the communication of ideas, information and entertainment.
Column 1 lines 29-35.	This potential arises out of two simultaneous, independent trends. One is the development and growth of the so-called cable television industry whose member companies deliver locally not one but many channels of programing. The other is the widespread and growing ownership of computers, especially microcomputers in homes.	Page 2 lines 8-11.	Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information.
Column 1 lines 36-41.	It is the object of this invention to unlock this potential by the development of means and methods which permit programing to communicate with equipment that is external to television and radio receivers, particularly computers and computer peripherals such as printers.	Page 3 lines 30-33,  Page 2 line 25 to page 3 line 8.	<p>It is the object of this invention to unlock this great potential in the fullest measure by means of an integrated system of programming communication that joins together all these capacities most efficiently.</p> <p>To unlock this potential fully requires means and methods for combining and controlling receiver systems that are now separate--television and computers, radio and computers, broadcast print and computers, television and computers and</p>

1981 Spec. Reference	1981 Language	1987 Spec. Reference	1987 Language
<b>Specification Correlation Chart</b>			
			<p>broadcast print, etc.</p> <p>But it requires much more.</p> <p>To unlock this potential fully requires a system with efficient capacity for satisfying the demands of subscribers who have little receiver apparatus and simple information demands as well as subscribers who have extensive apparatus and complex demands. It requires capacity for transmitting and organizing vastly more information and programming than any one-channel transmission system can possibly convey at one time. It requires capacity for controlling intermediate transmission stations that receive information and programming from many sources and for organizing the information and programming so as to make the use of the information and programming at ultimate receiver stations as efficient as possible.</p>
Column 1 lines 42-44	It is the further purpose of this invention to provide means and methods to process and monitor such transmissions and presentations at individual receiver sites...	Page 3 lines 9-29.	<p>To unlock this potential also requires efficient capacity for providing reliable audit information to (1) advertisers and others who pay for the transmission and performance of programming and (2) copyright holders, pay service operators, and others such as talent who demand, instead, to be paid. This requires capacity for identifying and recording (1) what television, radio, data, and other programming and what instruction signals are transmitted at each transmission station and (2) what is received at each receiver station as well as (3) what received programming is combined or otherwise used at each receiver station and (4) how it is received, combined, and/or otherwise used.</p> <p>Moreover, this system must have the capacity to ensure that programming supplied for pay or for other conditional use is used only in accordance with those conditions. For example, subscriber station apparatus must display the commercials that are transmitted in transmissions that advertisers pay for. The system must have capacity for decrypting, in many varying ways, programming and instruction signals that are encrypted and for identifying those who pirate programming and inhibiting piracy.</p>
Column 1 lines 45-49.	...and to control, in certain ways, the use of transmitted programming and the operation of certain associated equipment. Such receiver sites may be stations or systems that intend to retransmit the programming, or they may be end users of the programming.	Page 11 lines 23-27.	<p>It is the further purpose of this invention to provide means and methods whereby a simplex point-to-multipoint transmission (such as a television or radio broadcast) can cause simultaneous generation of user specific information at a plurality of subscriber stations.</p>

1987 Spec. Reference	1987 Language	1987 Spec. Reference	1987 Language	1987 Spec. Reference	1987 Language	1987 Spec. Reference	1987 Language	1987 Spec. Reference	1987 Language
Column 1 lines 49-53.	The present invention contemplates that certain data may be encrypted and that certain data collected from such processing and monitoring will automatically be transferred to a remote geographic location or locations.	Page 13 lines 5-9.	In the present invention, certain monitored signals may be encrypted, and certain data collected from such monitoring may be automatically transferred from subscriber stations to one or more remote geographic stations.	Column 1 lines 54-57.	In the prior art, there have been attempts to develop systems to control programming and systems to monitor programming, but the two have been treated as separate systems, and each has had limited capacity.	Page 2 lines 25-30.	To unlock this potential fully requires means and methods for combining and controlling receiver systems that are now separate--television and computers, radio and computers, broadcast print and computers, television and computers and broadcast print, etc.	Column 1 line 58 to column 2 line 27.	This prior art is limited. It only transmits data; it does not control data processing. No system is preprogrammed to simultaneously control a plurality of central processor units, operating systems, and pluralities of computer peripheral units. None has capacity to cause simultaneous generation of user specific information at a plurality of receiver stations. None has any capacity to cause subscriber station computers to process received data, let alone in ways that are not inputted by the subscribers. None has any capacity to explain automatically why any given information might be of particular interest to any subscriber or why any subscriber might wish to select information that is not selected or how any subscriber might wish to change the way selected information is processed.
	As regards control systems, cueing systems and equipment now exist that transmit instructions to operating equipment at receiver sites by means of tone signals that are carried, in television transmissions, in the audio portion and may be heard by the human ear. Such systems and devices are used to turn on equipment such as videotape players and recorders that have been manually loaded and to tell such equipment how long to run. Such systems operate by transmitting operating signals that precede and follow programming and are called "headers" and "trailers" respectively. The use of headers and trailers limits prior art in that headers and trailers can become separated from programming, thereby hampering automatic operations. Such prior art techniques have lacked the capacity to process the programming in various ways including to instruct receiver end equipment what specific programming to select to play or record other than that immediately at hand, how to load it on player or recorder equipment, when and how to play it or record it other than immediately, how to modify it, what equipment or channel or channels to transmit it on, when to transmit it, and how and where to file it or refile it or dispose of it. (Within television studios that are original transmitters of programming, certain systems and equipment do exist for certain automatic co-ordination of players, loaders, and other equipment; however, manual instructions still must be given, on site, for the co-ordination of such equipment which instructions are transmitted electronically on hard-wire channels that are strictly separate from the channels on which the programming is transmitted and such instructions are never broadcast.) Such prior art systems and equipment have lacked the capacity to automatically coordinate multi-channel and multi-media presentations. They have lacked the capacity to decrypt encrypted	Generally, page 4 line 17 to page 7 line 22.	This prior art is limited. It only transmits data; it does not control data processing. No system is preprogrammed to simultaneously control a plurality of central processor units, operating systems, and pluralities of computer peripheral units. None has capacity to cause simultaneous generation of user specific information at a plurality of receiver stations. None has any capacity to cause subscriber station computers to process received data, let alone in ways that are not inputted by the subscribers. None has any capacity to explain automatically why any given information might be of particular interest to any subscriber or why any subscriber might wish to select information that is not selected or how any subscriber might wish to change the way selected information is processed.						... This prior art, too, is limited. It has no capacity to overlay any information other than information transmitted to all receiver stations simultaneously. It has no capacity to overlay any such information except in the order in which it is received. It has no capacity to cause receiver station computers to generate any information whatsoever, let alone user specific information. It has no capacity to cause overlays to commence or cease appearing at receiver stations, let alone commence and cease appearing periodically.
			As regards the automation of intermediate transmission stations, various so-called "cueing" systems in the prior art operate in conjunction with network broadcast transmissions to automate the so-called "cut-in" at local television and radio stations of locally originated programming such as so-called "local spot" advertisements.						... This prior art, too, is limited. It has no capacity to schedule

**Specification Correlation Chart**

<p>processing signals. They have lacked the capacity to monitor whether receiver-end equipment are following instructions properly.</p>		<p>automatically or transmit any programming other than that loaded immediately at the play heads of the controlled video players. It has no capacity to load the video players or identify what programming is loaded on the players or verify that scheduled programs are played correctly. It has no capacity to cause the video players to record programming from any source. It has no capacity to receive programming transmissions or process received transmissions in any way. It has no capacity to operate under the control of instructions transmitted by broadcasters. It has no capacity to insert signals that convey information to or control, in any way, the automatic operation of ultimate receiver station apparatus other than television receivers.</p> <p>...</p> <p>This prior art, too, is limited. It has no capacity for interconnecting or operating a system at any time other than the time when the order to do so is entered manually at the system or remote keyboard. It has no capacity for acting on instructions transmitted by broadcasters to interconnect, actuate or tune systems peripheral to a television receiver or to actuate a television receiver or automatically change channels received by a receiver. It has no capacity for coordinating the programming content transmitted by any given peripheral system with any other programming transmitted to a television receiver. It has no capacity for controlling two separate systems such as, for example, an automatic radio and television stereo simulcast. It has no capacity for selectively connecting radio receivers to radio peripherals such as computers or printers or speakers or for connecting computers to computer peripherals (except perhaps a television set). It has no capacity for controlling the operation of decryptors or selectively inputting transmissions to decryptors or outputting transmissions from decryptors to other apparatus. It has no capacity for monitoring and maintaining records regarding what programming is selected or played on any apparatus or what apparatus is connected or how connected apparatus operate.</p>
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**II. COLUMN 2**

<p>Column 2 lines 28-62.</p>	<p>As regards monitoring systems, various systems and devices have been developed to determine what programming</p>	<p>Generally page 7 line 23 to page 9 line 5.</p> <p>The prior art includes a variety of systems for monitoring programming and generating so-called "ratings." One system</p>
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1981 SpecReference	1981 Language	1987 SpecReference	1987 Language
	<p>is played on television. One such system for monitoring programs is described in U.S. Patent to Haselwood, et al. No. 4,025,851. Another that monitors by means of audio codes that are only "substantially inaudible" is described in U.S. Patent to Crosby No. 3,845,391. Recently devices, called addressable converters, have been developed that facilitate so-called pay-per-view marketing of programming by monitoring what individual television receivers tune to and either permitting or preventing the tuners to tune to given frequencies satisfactorily. Such prior art techniques and equipment have been limited to monitoring single broadcast stations, channels or units and have lacked the ability to monitor multimedia presentations. They have been able to monitor only the audio or the video portion of television transmissions. They have been able either to monitor what is transmitted over one channel or what is received by one or more receivers but not both. They have lacked the capacity to record and transfer information simultaneously. They have been unable to decrypt encrypted signals. They have been able to monitor only single signal word types or word lengths that are placed, within the transmissions, in locations that are unvarying and unvariable. They have lacked the capacity to compare, assemble, and/or evaluate multi-word, multi-location signals. Except in the possible case of addressable converters, they have been unable to distinguish the absence of signals or signal words in transmissions. They have lacked the capacity to communicate processing instructions to external equipment as described in the paragraph above. It is the object of the present invention to overcome these and other deficiencies of the prior art.</p>		<p>that monitors by means of embedded digital signals is described in U.S. Patent to Haselwood, et al. No. 4,025,851. Another that monitors by means of audio codes that are only "substantially inaudible" is described in U.S. Patent to Crosby No. 3,845,391. A third that automatically monitors a plurality of channels by switching sequentially among them and that includes capacity to monitor audio and visual quality is described in U.S. Patent to Greenberg No. 4,547,804.</p> <p>This prior art, too, is limited. It has capacity to monitor only single broadcast stations, channels or units and lacks capacity to monitor more than one channel at a time or to monitor the combining of media. At any given monitor station, it has had capacity to monitor either what is transmitted over one or more channels or what is received on one or more receivers but not both. It has assumed monitored signals of particular format in particular transmission locations and has lacked capacity to vary formats or locations or to distinguish and act on the absence of signals or to interpret and process in any fashion signals that appear in monitored locations that are not monitored signals. It has lacked capacity to identify encrypted signals then decrypt them. It has lacked capacity to record and also transfer information to a remote geographic location simultaneously.</p> <p>As regards recorder/player systems, many means and methods exist in the prior art for recording television or audio programming and/or data on magnetic, optical or other recording media and for retransmitting prerecorded programming. Video tape recorders have capacity for automatic delayed recording of television transmissions on the basis of instructions input manually by viewers. So-called "interactive video" systems have capacity for locating prerecorded television programming on a given disc and transmitting it to television receivers and locating prerecorded digital data on the same disc and transmitting them to computers.</p> <p>This prior art, too, is limited. It has no capacity for automatically embedding signals in and/or removing embedded signals from a television transmission then recording the transmission. It has no capacity for controlling the connection or actuation or tuning of external apparatus. It has no capacity for retransmitting prerecorded</p>

**Specification Correlation Chart**

			programming and controlling the decryption of said programming, let alone doing so on the basis of signals that are embedded in said programming that contain keys for the decryption of said programming. It has no capacity for operating on the basis of control signals transmitted to recorder/players at a plurality of subscriber stations, let alone operating on the basis of such signals to record user specific information at each subscriber station.
Column 2 lines 63-64.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit.	Page 14 lines 26-27.	(The term "signal unit" hereinafter means one complete signal instruction or information message unit.
Column 2 lines 65-66.	Examples of signal units are a unique code identifying a programming unit, ...	Page 14 lines 27-29.	Examples of signal units are a unique code identifying a programming unit, ...
Column 2 lines 66-67.	...or a unique purchase order number identifying the proper use of a programming unit, ...	Page 14 lines 27-30.	Examples of signal units are ... a unique purchase order number identifying the proper use of a programming unit, or ...
Column 2 line 67 to column 3 line 3.	...or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.	Page 14 lines 27-32.	Examples of signal units are ... a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission.

**III. COLUMN 3**

Column 3 lines 3-5.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission.	Page 14 lines 32-35.	The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission.
Column 3 lines 6-8.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.	Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
Column 3 lines 8-12.	Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial or whole signal units or combinations.)	Page 15 lines 2-6.	Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial or whole signal units or combinations.)
Column 3 lines 13-27.	It is a further object of the present invention to process and monitor signals on numerous channels by sequentially scanning each channel in a predetermined manner which manner may be varied. It is also an object of the present invention to prevent unauthorized use of signals and programming by permitting signal encryption, the variation of word numbers, word lengths, word compositions, and/or word locations. It is also an object of this system to process different signal words in different ways. It is also an object of	Page 3 lines 21-219.	Moreover, this system must have the capacity to ensure that programming supplied for pay or for other conditional use is used only in accordance with those conditions. For example, subscriber station apparatus must display the commercials that are transmitted in transmissions that advertisers pay for. The system must have capacity for decrypting, in many varying ways, programming and instruction signals that are encrypted and for identifying those who pirate programming and inhibiting piracy.

1987 Language	1987 Spec/Reference	1987 Language	1987 Spec/Reference
<b>Specification Correlation Chart</b>			

	the present invention to provide a record of signals that may be transferred to a geographically distant location on command or predetermined instruction. Other objects of this invention will appear from the following descriptions and the appended claims.		
Column 3 line 29.	<b>SUMMARY OF THE INVENTION</b>	See generally page 11 line 4 to page 14 line 30.	<b>SUMMARY OF THE INVENTION</b>
Column 3 lines 30-31.	The present invention consists of methods and apparatus with several forms.	Page 16 lines 15-27.	A central objective of the present invention is to provide flexibility in regard to installed station apparatus. At any given time, the system must have capacity for wide variation in individual station apparatus in order to provide individual subscribers the widest range of information options at the least cost in terms of installed equipment. Flexibility must exist for expanding the capacity of installed systems by means of transmitted software and for altering installed systems in a modular fashion by adding or removing components. Flexibility must exist for varying techniques that restrict programming to duly authorized subscribers in order to identify and deter pirates ...
Column 3 lines 32-37.	One method provides a technique whereby a broadcast or cablecast transmission facility can duplicate the operation of a television studio automatically through the use of instruction and information signals embedded in programming either supplied from a remote source or sources or prerecorded.	Page 12 lines 18-24.	It is the further purpose of this invention to provide means and methods for the automation of intermediate transmission stations that receive and retransmit programming. The programming may be delivered by any means including over-the-air, hard-wire, and manual means. The stations may transmit programming over-the-air (hereinafter, "broadcast") or over hard-wire (hereinafter, "cablecast").
Column 3 lines 37-39.	The programming may be delivered to the transmission facility by any means including broadcast, hard-wire, and manual means.	Page 11 lines 16-19.	... the present invention has capacity for transmitting data and control instructions in the same information stream to many different apparatus at a given subscriber station, for causing computers to generate and transmit programming, ...
Column 3 lines 39-41.	The transmission facility may transmit a single channel or multiple channels of programming.	Page 12 lines 21-24.	The programming may be delivered by any means including over-the-air, hard-wire, and manual means. The stations may transmit programming over-the-air (hereinafter, "broadcast") or over hard-wire (hereinafter, "cablecast").
Column 3 lines 41-45.	The method includes a monitoring technique to construct a record for each transmitted channel that duplicates the log that the Federal Communications Commission requires broadcast station operators to maintain.	Page 12 lines 25.	They may transmit single channels or multiple channels.
		Page 12 lines 25-29.	The present invention includes capacity for automatically constructing records for each transmitted channel that duplicate the logs that the Federal Communications Commission requires broadcast station operators to maintain.

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Column 3 lines 45-47.	The method permits the transfer of such records to a predetermined site or sites in a predetermined fashion or fashions.	Page 337 lines 19-21	And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively.
Column 3 lines 48-51.	Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not.	Page 12 lines 30-35.	It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, ... Such ultimate receiver stations may be private homes or offices or commercial establishments such as theaters, hotels, or brokerage offices.
Column 3 lines 51-56.	This method provides techniques whereby, automatically, single channel, single medium presentations, be they television, radio, or other electronic transmissions, may be recorded, co-ordinated in time with other programming previously transmitted and recorded, or processed in other fashions.	Page 12 lines 30-33.  Page 2 lines 8-19.	It is the further purpose of this invention to provide means and methods for the automation of ultimate receiver stations, especially the automation of combined medium and multi-channel presentations.  Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.)  ... methods for combining and controlling receiver systems that are now separate--television and computers, radio and computers, broadcast print and computers, television and computers and broadcast print, etc.
		Page 13 lines 10-13.	It is a further purpose of this invention to provide means and methods for recording combined media and/or multi-channel programming and for playing back prerecorded programming of such types.
Column 3 lines 56-60.	Multimedia presentations may be co-ordinated in time and/or in place as, for example, when real-time video programming is co-ordinated with presentations from a microcomputer working with data supplied earlier.	Page 12 lines 3-9.	It is the further purpose of this invention to provide means and methods whereby a simplex broadcast transmission can cause periodic combining of relevant user specific information and conventional broadcast programming simultaneously at a plurality of subscriber stations, thereby integrating the broadcast information with each user's own information.

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			<p>Page 2 lines 8-19.</p> <p>Page 28 lines 2-3.</p> <p>Page 11 lines 23-31.</p> <p>Page 450 lines 27-35.</p> <p>Page 13 lines 1-9.</p>	<p>Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading," --with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.)</p> <p>This television based combined medium is but one example of many combined media.</p> <p>It is the further purpose of this invention to provide means and methods whereby a simplex point-to-multipoint transmission (such as a television or radio broadcast) can cause simultaneous generation of user specific information at a plurality of subscriber stations. One advantage of the present invention is great ease of use. For example, as will be seen, a subscriber can cause his own information to be processed in highly complex ways by merely turning his television receiver on and tuning to a particular channel.</p> <p>(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) ....</p> <p>It is the further purpose of this invention to provide means and methods for identifying and recording what television, radio, data, and other programming is transmitted at each transmission station, what programming is received at each receiver station, and how programming is used. In the present invention, certain monitored signals may be encrypted, and certain data collected from such monitoring may be automatically transferred from subscriber stations to one or more remote geographic stations.</p>
Column 3 lines 60-66.	This method provides techniques whereby the timing and fashion of the playing, processing, and co-ordination of a presentation or presentations may be determined at the time and place of transmission or of presentation, either in whole or in part, either locally or remotely, or a combination of these factors.			
Column 3 line 66 to column 4 line 2.	The method provides monitoring techniques to develop data on patterns of viewership and to permit the determination of specific usage at individual receiving sites for various purposes including, for example, the billing of individual customers.			

1981 Spec. Reference	1981 Language	1987 Spec. Reference	1987 Language
<i>Specification Correlation Chart</i>			

		Page 28 lines 29-35.	It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
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#### IV. COLUMN 4

Column 4 lines 2-4.	The method provides techniques whereby unauthorized use of programming and/or of signals may be prevented.	Page 13 lines 14-17.	It is a further purpose of this invention to provide a variety of means and methods for restricting the use of transmitted communications to only duly authorized subscribers.
Column 4 lines 5-6.	These techniques employ signals embedded in programs.	Page 13 lines 25-26.	The present invention employs signals embedded in programming.
Column 4 line 6.	The advantage of such embedded signals,...	Page 13 line 26.	Embedded signals provide several advantages.
Column 4 lines 6-9.	...as compared to header and trailer signals, is that they cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing...	Page 13 lines 27-28.	They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.
Column 4 lines 9-12.	...that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programming...	Page 13 lines 28-31.	They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions.
Column 4 lines 12-13.	...and that they can be monitored.	Page 13 lines 31-32.	They can be conveniently monitored.
Column 4 lines 13-14.	(The techniques described here may use headers and trailers from time to time.)	Page 344 line 33 to page 345 line 14.	Separating the transmission of the end of each program unit and the commencement of the succeeding unit is a brief interval of time. Before transmitting the first program unit and, subsequently, in each one of said intervals, said distribution station transmits a SPAM message that contains execution and meter-monitor segments. Each message contains the same execution segment information that is addressed to ITS computers, 73, and instructs each computer, 73, to identify the information in the meter-monitor segment of said message, to compare said "code" information to the preprogrammed schedule information of said computer, 73, and if a match results, to select and record the programming of the program unit that follows said message, or if no match results, to not select and not record said programming. Each message contains meter-monitor "program unit identification code" information of the program unit that immediately follows.

**Specification Correlation Chart**

Column 4 lines 14-17.	The embedded signals may run and repeat continuously throughout the programming or they may run only occasionally or only once.	Page 14 lines 3-5.	In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once.
Column 4 lines 17-18.	They may appear in various and varying locations.	Page 14 line 6.	They may appear in various and varying locations.
Column 4 lines 18-22.	In television they may appear on one line in the video portion of the transmission, or on a portion of one line, or on more than one line, and will probably lie outside the range of the television picture displayed on a normally tuned television set.	Page 14 lines 6-11.	In television they may appear on one line in the video portion of the transmission such as line 20 of the vertical interval, or on a portion of one line, or on more than one line, and they will probably lie outside the range of the television picture displayed on a normally tuned television set.
Column 4 lines 22-25.	In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.	Page 14 lines 11-14.	In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear.
Column 4 lines 25-26.	In television audio, they are likely to lie between eight and fifteen kilohertz.	Page 14 lines 14-15.	In television audio, they are likely to lie between eight and fifteen kilohertz.
Column 4 lines 26-28.	Signals may also be transmitted on frequencies outside the ranges of television and radio.	Page 14 lines 15-17.	In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming....
		Page 463 lines 10-29.	(To minimize the risk that program instruction sets may become separated from their associated television programming, said sets are normally embedded in their associated television transmissions. But it is not an absolute requirement of the preferred embodiment that all program instruction sets be so embedded. If the volume of program instruction set information that a given programming transmission must transmit exceeds the transmission capacity of said transmission [eg., if the audience includes viewers who do not have overlay capacity and would see "snow" were set information transmitted in portions of the transmission obscured by overlays], at the proper time transmission stations can transmit said set information outside the conventional transmission [a program originating studio may transmit said set information, for example, in a satellite side lobe of the transponder transmission transmitting the conventional transmission, and a cable head end intermediate transmission station transmits it in a separate television channel or in a transmission in a multiplexed FM frequency spectrum transmission].)
Column 4 lines 28-30.	Different and differing numbers of signals may be sent in different and differing word lengths and locations.	Page 533 lines 9-17.	In the preferred embodiment....SPAM messages are composed of varying numbers and sequences of segments of highest priority, intermediate priority, and lowest priority segment information. Complex SPAM receiver apparatus

**Specification Correlation Chart**

have means and are preprogrammed to process at register memory execution segment information of varying lengths of binary information.			
Column 4 lines 31-33.	The present invention provides a method for obscuring the meaning of the signals to prevent unauthorized use of the signals and of their associated programing. Their meanings may be obscured through encryption so that apparatus described below are necessary to decrypt them.	Page 13 lines 14-17.	It is a further purpose of this invention to provide a variety of means and methods for restricting the use of transmitted communications to only duly authorized subscribers. Such means and methods include techniques for encrypting programming and/or instructions and decrypting them at subscriber stations.
Column 4 lines 34-36.	In addition, the pattern of the composition, timing, and location of the signals may vary in such ways that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.	Page 13 lines 17-19.	They also include techniques whereby the pattern of the composition, timing, and location of embedded signals may vary in such fashions that only receiving apparatus that are preinformed regarding the patterns that obtain at any given time will be able to process the signals correctly.
Column 4 lines 36-40.	Both the arrangement of signal units in signal words and the locations, timings, and lengths of signal words in individual transmissions or groups of transmissions may vary in fashions that can only be interpreted accurately by apparatus that are preprogrammed with the keys to such variations.	Page 13 lines 19-24.	... [signals] will probably lie outside the range of the television picture displayed on a normally tuned television set. In television and radio they may appear in a portion of the audio range that is not normally rendered in a form audible to the human ear. In television audio, they are likely to lie between eight and fifteen kilohertz. In broadcast print and data communications transmissions, the signals may accompany conventional print or data programming in the conventional transmission stream but will include instructions that receiver station apparatus are preprogrammed to process that instruct receiver apparatus to separate the signals from the conventional programming and process them differently. In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
Column 4 lines 40-46.		Page 14 lines 10-25.	SPAM messages are composed of elements—headers, execution segments, meter-monitor segments, and information segments—whose bit lengths vary. SPAM apparatus determine the bit length of said elements in different fashions, and the particular fashion that applies to any given element relates to the priority of said element for subscriber station speed of processing. First priority segment information has the highest priority for speedy processing and is of fixed binary bit length. A SPAM header is one example of a first priority segment. An execution segment is another example. Intermediate priority segment information
		Page 60 line 19 to page 61 line 1.	



**Specification Correlation Chart**

			has lower priority, varies in bit length, but contains internal length information. A Meter-monitor segment is one example of an intermediate priority segment. Lowest priority segment information has the lowest priority, varies in length, and contains no internal information for determining segment length. Each information segment is an example of a lowest priority segment.
		Page 91 lines 18-20.	All subscriber station apparatus are fully preprogrammed to perform automatically each step of each example. No manual step is required at any station.
Column 4 lines 47-49.	The present invention also provides a method for identifying attempts to make unauthorized use of signals and the programming associated with signals.	Page 293 lines 32-35.	At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion--not resulting in a match causes...
Column 4 lines 49-50.	When an apparatus finds that signal words fail to appear in places...	Page 293 lines 28-33.	(Simultaneously other stations compare information of other selected information of bit locations that contain information of said enable-CC13 instructions with information of other local bit locations that hold preprogrammed SPAM operating information. At each station where a match fails to occur--which suggests that the preprogrammed SPAM...
Column 4 line 51.	...and at times when and where they are expected,...	Page 300 lines 10-12.	In due course, but still before said 8:30 PM time, said program originating studio embeds in the video portion and transmits particular SPAM check information....
		Page 301 lines 4-10.	(Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with....
Column 4 lines 51-53.	...the apparatus may automatically contact one or more remote sites...	Page 294 lines 10-13.	...causes said controller, 20, to cause the auto dialer, 24, and telephone connection, 22, to establish telephone communications with a particular predetermined remote station, in the fashion described above....
		Page 301 lines 18-21.	...said portion causes controller, 20, to cause the auto dialer, 24, and telephone connection, 22, of said station to establish telephone communications with a particular predetermined

**Specification Correlation Chart**

Column 4 lines 53-54.	...and may or may not disable the flow of programming in one or more ways.	Page 294 lines 1-3, lines 25-27.  Page 301 lines 11-14,  lines 28-30.	remote station, in the fashion described above,.... ...controller, 20, of said station to cause all information of said local-cable-enabling-message (#7) to be erased from all memory of said station.... ...causes said controller, 20, to erase all preprogrammable RAM and EPROM of the signal processing apparatus at said station, thereby disabling said apparatus.) ...resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program-enabling-message (#7) to be erased from all memory of said station.... ...the instructions of said portion cause said controller, 20, to erase all preprogrammable RAM and EPROM of the signal processing apparatus at said station,....
Column 4 lines 55-56.	The present invention contemplates signal processing apparatus....	Page 15 lines 7-8.	In the present invention, particular signal processing apparatus (hereinafter called the "signal processor")
Column 4 lines 56-57.	...comprising a device or devices that can selectively scan transmission channels as directed.	Page 15 lines 12-14.	The apparatus include one or more devices that can selectively scan transmission frequencies as directed....
Column 4 lines 57-59.	The channels may convey television, radio, or other transmission frequencies.	Page 15 lines 16-17.	The frequencies may convey television, radio, or other programming transmissions.
Column 4 lines 59-60.	The input transmissions may be received by means of antennas or from hard-wire connections.	Page 15 lines 17-19.	The input transmissions may be received by means of antennas or from hard-wire connections.
Column 4 lines 61-62.	The scanners/switches, working in parallel or series or combinations, transfer the transmissions...	Page 15 lines 19-21.	The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors....
Column 4 lines 62-65.	...to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information;....	Page 15 lines 21-23.	...transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information;....
Column 4 lines 65-67.	...decryptors that may convert the received information, in part or in whole, to other digital information according to preset methods or patterns;...	Page 15 lines 23-26.	...decryptors that may convert the received information, in part or in whole, to other digital information according to preset methods or patterns; ....
Column 4 line 68 to column 5 line 2.	...and one or more processor/monitors and/or buffer/comparators that organize and transfer the information stream.	Page 15 lines 26-28.	...and one or more processor/monitors and/or buffer/comparators that organize and transfer the information stream.

**V. COLUMN 5**

Column 5 lines 2-4.	The processors and buffers can have inputs from each of the	Page 15 lines 28-30.	The processors and buffers can have inputs from each of the
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1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language	Specification Correlation Chart
	receiver/detector lines and evaluate information continuously.		receiver/detector lines and evaluate information continuously.	
Column 5 lines 4-7.	From the processors and buffers, the signals may be transferred to external equipment such as computers, videotape recorders and players, etc.	Page 15 lines 30-32.	From the processors and buffers, the signals may be transferred to external equipment such as computers, videotape recorders and players, etc.	
Column 5 lines 7-11.	And/or they may be transferred to one or more internal digital recorders that receive and store in memory the recorded information and have connections to one or more remote sites for further transmission of the recorded information.	Page 15 line 32 to page 16 line 1.	And/or they may be transferred to one or more internal digital recorders that receive and store in memory the recorded information and have connections to one or more remote sites for further transmission of the recorded information.	
Column 5 lines 11-14.	The apparatus has means for external communication and an automatic dialer and can contact remote sites and transfer stored information as required in a predetermined fashion or fashions.	Page 16 lines 1-3.	The apparatus has means for external communication and an automatic dialer and can contact remote sites and transfer stored information....	
Column 5 lines 14-16.	The apparatus has a clock for determining and recording time as required.	Page 16 lines 4-6.	The apparatus has a clock for determining and recording time as required.	
Column 5 lines 16-20.	It has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.	Page 16 lines 6-10.	It has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.	
Column 5 lines 20-22.	The PRAM controller may be connected to all internal operating units for full flexibility of operations.	Page 16 line 10-11.	The PRAM controller may be connected to all internal operating units for full flexibility of operations.	
Column 5 lines 23-27.	Signal processing apparatus that are employed in specific situations that require fewer functions than those provided by the basic apparatus described above may omit one or more of the specific operating elements described above.	Page 16 lines 12-15.	Signal processing apparatus that are employed in specific situations that require fewer functions than those provided by the signal processor described above may omit one or more of the specific operating elements described above.	
Column 5 line 29.	<b>BRIEF DESCRIPTION OF THE DRAWINGS</b>	See generally page 16 line 33 to page 19 line 1.	<b>BRIEF DESCRIPTION OF THE DRAWINGS</b>	
Column 5 lines 30-31.	Fig. 1 is a block diagram of one embodiment of signal processing apparatus.	Page 17 lines 9-10.	Fig. 2 is a block diagram of one embodiment of a signal processor.	
Column 5 lines 32-33.	Fig. 2A is a block diagram of a TV signal decoder apparatus.	Page 17 lines 11-12.	Fig. 2A is a block diagram of a TV signal decoder apparatus.	
Column 5 lines 34-35.	Fig. 2B is a block diagram of a radio signal decoder apparatus.	Page 17 lines 13-14.	Fig. 2B is a block diagram of a radio signal decoder apparatus.	
Column 5 lines 36-37.	Fig. 2C is a block diagram of an other signal decoder apparatus.	Page 17 lines 15-16.	Fig. 2C is a block diagram of an other signal decoder apparatus.	
Column 5 lines 38-41.	Figs. 3A 3B and 3C are a block diagram of signal processing apparatus and methods as they might be used in an intermediate transmission facility, in this case a cable system head end.	Page 18 lines 13-15.	Fig. 6 is a block diagram of one example of signal processing apparatus and methods at an intermediate transmission station, in this case a cable system headend.	

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Column 5 lines 42-57.	Fig. 4A is a block diagram of a signal processor and a programming decryptor or other interrupt means with signals input to the signal processor before programming decryption. Also included is a local input. Fig. 4B is a block diagram of a signal processor and a decryptor/interruptor with signals input to the signal processor in programming after programming decryption. Fig. 4C is a block diagram of a signal processor and a decryptor/interruptor with signals input both before and after programming decryption. Fig. 4D is a block diagram of a signal processor and a multiple decryptor/interrupters in series, with signals input both before and after programming decryption. Fig. 4E is a block diagram of a signal processor and multiple decryptor/interrupters and with signals from one channel needed for decryption of a second channel.	Page 18 lines 8-9.	Fig. 4 is a block diagram of one example of a signal processing programming reception and use regulating system.
Column 5 lines 58-60.	Fig. 5 is a block diagram of signal processor apparatus monitoring various programming and viewership patterns.	Page 18 lines 10-12.	Fig. 5 is a block diagram of one example of a signal processing apparatus and methods monitoring system installed to monitor a subscriber station.
Column 5 lines 61-64.	Fig. 6A is a block diagram of signal processor apparatus and methods used to instruct and inform external equipment governing the environment of the local receiver site.	Page 18 lines 18-20.	Fig. 7A is a block diagram of signal processing apparatus and methods with external equipment regulating the environment of the local receiver site.
Column 5 lines 65-68.	Fig. 6B is a block diagram of signal processor apparatus and methods used to co-ordinate a multi-media, multi-channel presentation and monitor such viewership.	Page 18 lines 21-23.	Fig. 7B is a block diagram of signal processing apparatus and methods used to control a combined medium, multi-channel presentation and to monitor such viewership.

**VI. COLUMN 6**

Column 5 lines 2-4.	The processors and buffers can have inputs from each of the receiver/detector lines and evaluate information continuously.	Page 15 lines 28-30.	The processors and buffers can have inputs from each of the receiver/detector lines and evaluate information continuously.
Column 5 lines 4-7.	From the processors and buffers, the signals may be transferred to external equipment such as computers, videotape recorders and players, etc.	Page 15 lines 30-32.	From the processors and buffers, the signals may be transferred to external equipment such as computers, videotape recorders and players, etc.
Column 5 lines 7-11.	And/or they may be transferred to one or more internal digital recorders that receive and store in memory the recorded information and have connections to one or more remote sites for further transmission of the recorded information.	Page 15 line 32 to page 16 line 1.	And/or they may be transferred to one or more internal digital recorders that receive and store in memory the recorded information and have connections to one or more remote sites for further transmission of the recorded information.
Column 5 lines 11-14.	The apparatus has means for external communication and an automatic dialer and can contact remote sites and	Page 16 lines 1-3.	The apparatus has means for external communication and an automatic dialer and can contact remote sites and transfer

**Specification Correlation Chart**

	transfer stored information as required in a predetermined fashion or fashions.		stored information....	
Column 5 lines 14-16.	The apparatus has a clock for determining and recording time as required.	Page 16 lines 4-6.	The apparatus has a clock for determining and recording time as required.	
Column 5 lines 16-20.	It has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.	Page 16 lines 6-10.	It has a read only memory for recording permanent operating instructions and other information and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.	
Column 5 lines 20-22.	The PRAM controller may be connected to all internal operating units for full flexibility of operations.	Page 16 line 10-11.	The PRAM controller may be connected to all internal operating units for full flexibility of operations.	
Column 5 lines 23-27.	Signal processing apparatus that are employed in specific situations that require fewer functions than those provided by the basic apparatus described above may omit one or more of the specific operating elements described above.	Page 16 lines 12-15.	Signal processing apparatus that are employed in specific situations that require fewer functions than those provided by the signal processor described above may omit one or more of the specific operating elements described above.	
Column 5 line 29.	<b>BRIEF DESCRIPTION OF THE DRAWINGS</b>	See generally page 16 line 33 to page 19 line 1.	<b>BRIEF DESCRIPTION OF THE DRAWINGS</b>	
Column 5 lines 30-31.	Fig. 1 is a block diagram of one embodiment of signal processing apparatus.	Page 17 lines 9-10.	Fig. 2 is a block diagram of one embodiment of a signal processor.	
Column 5 lines 32-33.	Fig. 2A is a block diagram of a TV signal decoder apparatus.	Page 17 lines 11-12.	Fig. 2A is a block diagram of a TV signal decoder apparatus.	
Column 5 lines 34-35.	Fig. 2B is a block diagram of a radio signal decoder apparatus.	Page 17 lines 13-14.	Fig. 2B is a block diagram of a radio signal decoder apparatus.	
Column 5 lines 36-37.	Fig. 2C is a block diagram of an other signal decoder apparatus.	Page 17 lines 15-16.	Fig. 2C is a block diagram of an other signal decoder apparatus.	
Column 5 lines 38-41.	Figs. 3A 3B and 3C are a block diagram of signal processing apparatus and methods as they might be used in an intermediate transmission facility, in this case a cable system head end.	Page 18 lines 13-15.	Fig. 6 is a block diagram of one example of signal processing apparatus and methods at an intermediate transmission station, in this case a cable system headend.	
Column 5 lines 42-57.	Fig. 4A is a block diagram of a signal processor and a programming decryptor or other interrupt means with signals input to the signal processor before programming decryption. Also included is a local input. Fig. 4B is a block diagram of a signal processor and a decryptor/interruptor with signals input to the signal processor in programming after programming decryption. Fig. 4C is a block diagram of a signal processor and a decryptor/interruptor with signals input both before and after programming decryption. Fig. 4D is a block diagram of a signal processor and a multiple decryptor/interrupters in series, with signals input	Page 18 lines 8-9.	Fig. 4 is a block diagram of one example of a signal processing programming reception and use regulating system.	

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	both before and after programming decryption. Fig. 4E is a block diagram of a signal processor and multiple decryptor/interruptors and with signals from one channel needed for decryption of a second channel.		
Column 5 lines 58-60.	Fig. 5 is a block diagram of signal processor apparatus monitoring various programming and viewership patterns.	Page 18 lines 10-12.	Fig. 5 is a block diagram of one example of a signal processing apparatus and methods monitoring system installed to monitor a subscriber station.
Column 5 lines 61-64.	Fig. 6A is a block diagram of signal processor apparatus and methods used to instruct and inform external equipment governing the environment of the local receiver site.	Page 18 lines 18-20.	Fig. 7A is a block diagram of signal processing apparatus and methods with external equipment regulating the environment of the local receiver site.
Column 5 lines 65-68.	Fig. 6B is a block diagram of signal processor apparatus and methods used to co-ordinate a multi-media, multi-channel presentation and monitor such viewership.	Page 18 lines 21-23.	Fig. 7B is a block diagram of signal processing apparatus and methods used to control a combined medium, multi-channel presentation and to monitor such viewership.

## VII. COLUMN 7

Column 7 lines 1-5.	Detectors, 34, 37, and 38, line receiver, 33, and high pass filter, 36, all operate in predetermined fashions which fashions may be changed by external controller, 20 (referring to Fig. 1), to be described below.	Page 35 lines 31-35.	Line receiver, 33; high pass filter, 36; detectors, 34, 37, and 38; and controller, 39, all operate under control of controller, 39, and in preprogrammed fashions that may be changed by controller, 39.
Column 7 lines 6-11.	If one returns to FIG. 1, one sees that the three separate lines of information outputted from TV signal decoder, 30, are then gated to a buffer/comparator, 8, which also receives other inputs from the other separate receivers comprising similar filters, demodulators, and decoders for other channels of interest.	Page 33 lines 18-21.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements.
Column 7 lines 12-15.	One such other path is that from mixer 2. Mixer 2 and the controlled oscillator, 6, act to select a radio frequency of interest which is inputted to a radio signal decoder, 40,...	Page 29 line 33 to page 30 line 5.	Decoder, 30, which is shown in detail in Fig. 2A, and decoder, 40, which is shown in Fig. 2B, detect signal information embedded in the respective inputted television and radio frequencies, ... and output said signals and said modified signals to buffer/comparator, 8.
Column 7 lines 15-18.	...shown in FIG. 2B. The frequency passes first through standard radio receiver circuitry, 41, well known in the art, a radio decoder, 42, and a standard digital detector, 43.	Page 29 lines 26-29.	Simultaneously, mixer, 2, and the controlled oscillator, 6, act to select a radio frequency of interest which is inputted to a radio signal decoder, 40.
		Page 36 lines 1-14.	Fig. 2B shows a radio signal decoder that detects and processes signal information embedded in an inputted radio frequency. Decoder, 40, in Fig. 2 is one such radio signal decoder. A selected frequency of interest is inputted at a fixed frequency to standard radio receiver circuitry, 41, which receives the radio information of said frequency using standard radio receiver techniques, well known in the art, and transfers said radio information to radio decoder, 42. Radio

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				decoder, 42, decodes the signal information embedded in said radio information and transfers said decoded information to a standard digital detector, 43. Said detector, 43, detects the binary signal information in said decoded information and inputs said signal information to controller, 44, discussed more fully below.
Column 7 lines 18-20.	All operate in predetermined fashions that may be changed by external controller, 20 (referring to Fig. 1).	Page 36 lines 14-17.	Circuitry, 41; decoder, 42, and detector, 43, all operate under control of controller, 44, and in predetermined fashions that may be changed by controller, 44.	
Column 7 lines 20-21.	As FIG. 1 shows, the radio signal detector outputs to buffer/comparator 8.	Page 33 lines 18-21.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements.	
Column 7 lines 22-24.	(The signal processor apparatus described here is configured to receive broadcast TV transmissions and cablecast TV and radio transmissions.	Page 29 line 32 to page 30 line 5.	Decoder, 30, which is shown in detail in Fig. 2A, and decoder, 40, which is shown in Fig. 2B, detect signal information embedded in the respective inputted television and radio frequencies, ... and output said signals and said modified signals to buffer/comparator, 8.	
Column 7 lines 24-30.	Were it desirable to process signals in other transmissions such as broadcast microwave transmissions or cablecast transmissions on other than standard TV and radio frequencies, the mixers and switches would be appropriately reconfigured and one or more other signal decoders as described in FIG. 2C would be added.	Page 29 lines 4-7.	Fig. 2 shows one embodiment of a signal processor. Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input.	
Column 7 lines 30-34.	As FIG. 2C shows, the desired frequencies would pass through appropriate other receiver circuitry, 45, well known in the art, and an appropriate digital detector, 46, before being outputted to buffer/comparator 8.	Page 33 lines 26-33.	... a signal processor can monitor any combination of inputs and transmission frequencies, and the signal processor of Fig. 2 is but one embodiment of a signal processor. Other embodiments can receive and monitor available programming in transmission frequencies other than radio and television frequencies through the addition of one or more other signal decoders such as that of Fig. 2C described below.	
Column 7 lines 34-35.	These, too, can be controlled by controller, 20 (ref. to Fig. 1).	Page 36 lines 18-29.	Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency other than a television or radio frequency. A selected other frequency (such as a microwave frequency) is inputted to appropriate other receiver circuitry, 45, well known in the art. Said receiver circuitry, 45, receives the information of said frequency using standard receiver techniques, well known in the art, and transfers said information to an appropriate digital detector, 46. Said detector, 46, detects the binary signal information in said information and inputs said signal information to controller, 47, considered more fully below.	
		Page 36 lines 29-31.	Circuitry, 45, and detector, 46, operate under control of	

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			controller, 47, and in predetermined fashions that may be changed by controller, 47.
Column 7 lines 36-37.	Buffer/comparator, 8, organizes the data stream that it receives according to a pre-determined fashion...	Page 33 lines 18-21.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor and can receive operating information from said elements.
		Page 30 lines 7-9.	Buffer/comparator, 8, receives said signals from said decoders and other signals from other inputs and organizes the received information in a predetermined fashion.
		Page 36 line 32 to page 37 line 3.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities. Said buffer capacity of controller, 39, 44, or 47, includes capacity for ... organizing, ... inputs ....
Column 7 lines 37-39.	... that enables buffer/comparator, 8, among other things, to assemble signal units from signal words.	Page 37 lines 22 to page 38 line 10.	Controller, 39, 44, or 47, is preprogrammed to receive units of signal information, to assemble said units into signal words that subscriber station apparatus can receive and process, and to transfer said words to said apparatus. In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed to discard received duplicate, incomplete, or irrelevant information; to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; to modify selectively particular corrected and converted information in a predetermined fashion or fashions; to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said controller, 39, 44, or 47, has one or more output ports for communicating signal information to said apparatus.
		Page 156 line 33.	Fig. 3A shows one such preferred controller, 39.
		Page 157 lines 5-7.	Buffer, 39C, and processor, 39D, are the second buffer and



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			processor and perform protocol conversion functions.
Column 7 lines 39-43.	In a pre-determined fashion, buffer/comparator, 8, identifies signal words and/or signal units that must be decrypted, either in whole or in part, and passes identified signal words and/or units to decrypter, 10.	Page 14 lines 22-25.	In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
Column 7 lines 43-46.	Decrypter, 10, uses conventional decrypter techniques, well known in the art, in a pre-determined fashion to decrypt such signals as required.	Page 30 lines 21-26.	In a fashion described more fully below, buffer/comparator, 8, and a controller, 20, which, too, is described more fully below, determine whether signal processor, 26, is enabled to decrypt said information. If signal processor, 26, is so enabled, buffer/comparator, 8, transfers said information to decrypter, 10.
Column 7 lines 46-47.	Decrypter, 10, then passes the decrypted signals to processor or monitor, 12.	Page 30 lines 31-35.	Decrypter, 10, is a standard digital information decrypter, well known in the art, that ... uses conventional decrypter techniques, well known in the art, to decrypt said signals as required.
Column 7 lines 47-49.	Buffer/comparator, 8, passes signal words and units not identified as requiring decryption directly to processor or monitor, 12.	Page 30 line 35 to page 31 line 1. Page 30 lines 29-30.	Decrypter, 10, transfers decrypted signals to controller, 12. Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12.
Column 7 lines 50-54.	Processor or monitor, 12, analyzes, in a pre-determined fashion, the signal words and units that it receives and determines whether they are to be passed to external equipment or to buffer/comparator, 14, for further processing or both.	Page 31 lines 10-14.	Controller, 12, receives the signals inputted from buffer/comparator, 8, and decrypter, 10; analyzes said signals in a pre-determined fashion; and determines whether they are to be transferred to external equipment or to buffer/comparator, 14, or both.
Column 7 lines 54-58.	If a signal or signals are to be passed externally, processor unit, 12, identifies, in a pre-determined fashion, the external equipment to which the signal or signals are addressed and passes them to appropriate jack ports for external transmission.	Page 31 lines 14-18.	If a signal or signals are to be transferred externally, in a pre-determined fashion controller, 12, identifies the external apparatus to which the signal or signals are addressed and transfers them to the appropriate port or ports for external transmission.
Column 7 lines 59-60.	If they are to be processed further, processor or monitor, 12, passes them to buffer/comparator, 14.	Page 31 lines 18-22.	If they contain meter and/or monitor information and are to be processed further, controller, 12, selects, assembles, and transfers the appropriate information to buffer/comparator, 14.
Column 7 lines 60-64.	Processor or monitor, 12, communicates with clock, 18, and has means to delay the transfer of signals, in a pre-determined fashion, when delayed transfer is determined, in a pre-determined fashion, to be required.	Page 31 lines 26-29.	Controller, 12, receives time information from clock, 18, and has means to delay in a pre-determined fashion the transfer of signals when, in a pre-determined fashion, delayed transfer is determined to be required.
Column 7 lines 65-67.	Buffer/comparator, 14, has means for identifying, according to a pre-determined fashion, which signals are to be recorded.	Page 31 line 30 to page 32 line 6.	Buffer/comparator, 14, receives signal information that is meter information and/or monitor information ... organizes said received information into meter records and/or monitor

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			records (called, in aggregate, hereinafter, "signal records") ... and transmits said signal records to a digital recorder, 16, and/or to one or more remote sites. ... has capacity to determine, in a predetermined fashion or fashions, what received information should be recorded, ...
Column 7 line 67 to column 8 line 1.	To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information....	Page 32 lines 9-12.	To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information....

### VIII. COLUMN 8

Column 8 lines 2-4.	Buffer/comparator, 14, is connected to clock, 18, and has means for adding information such as time of receipt, for example, to signals.	Page 32 lines 14-16.	Buffer/comparator, 14, receives time information from clock, 18, and has means for incorporating time information into signal records.
Column 8 lines 4-7.	Upon determining in a predetermined fashion that a signal word or unit should be passed, buffer/comparator, 14, transmits the combined information to a digital recorder, 16.	Page 31 line 30 to page 32 line 1.	Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, ...
Column 8 lines 7-12.	Buffer/ comparator, 14, also has means for determining, in a predetermined fashion, when signals require transfer immediately to a remote site and for communicating such a requirement to controller, 20, and such signals directly with the remote site via telephone connection, 22.	Page 32 lines 16-20.	Buffer/comparator, 14, also has means for transferring received information immediately to a remote site or sites via telephone connection, 22, and for communicating a requirement for such transfer to controller, 20, which causes such transfer.
Column 8 lines 13-14.	Digital recorder, 16, may be a memory storage element of standard design.	Page 32 lines 34-35.	Digital recorder, 16, is a memory storage element of standard design. ...
Column 8 lines 14-16.	It has means for determining in a predetermined fashion how full it is and passing this information to controller, 20.	Page 33 lines 2-4.	In a predetermined fashion, recorder, 16, can determine how full it is and transmit this information to controller, 20.
Column 8 lines 16-19.	The predetermined fashion may include provisions whereby recorder, 16, informs controller, 20, automatically when it reaches a certain level of fullness.	Page 33 lines 4-6.	Recorder, 16, may inform controller, 20, automatically when it reaches a certain level of fullness.
Column 8 lines 20-25.	The signal processor apparatus also has a controller device which includes programmable random access memory controller 20, read only memory 21 that may contain a unique digital code capable of identifying the signal processing apparatus uniquely, an automatic dialing device 24, and a telephone unit, 22.	Page 33 lines 7-12.	Signal processor, 26, has a controller device which includes programmable RAM controller, 20; ROM, 21, that may contain unique digital code information capable of identifying signal processor, 26, and the subscriber station of said processor, 26, uniquely; an automatic dialing device 24; and a telephone unit, 22.
Column 8 lines 25-27.	The controller, 20, governs the operation of all operating	Page 33 lines 18-20.	Controller, 20, has capacity for controlling the operation of

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Column 8 lines 27-29.	elements of the apparatus. The controller, 20, inputs the local oscillator, 6, a sequential pattern to select the various channels to be received by switch, 1, and mixers, 2 and 3.	Page 248 line 35 to page 249 line 5.	all elements of the signal processor ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.
Column 8 lines 30-32.	This then allows the channels to be diverted to the detectors, receivers, and decoders in any predetermined pattern desired.	Page 248 line 35 to page 249 line 5.  Page 253 lines 22-35.	In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.  Automatically oscillator, 6, causes switch, 1, to shift its contact lever from the first alternate contact to the second alternate contact to which wireless transmissions are inputted and causes mixer, 3, to select the frequency of channel 5 and input said frequency of interest, at a fixed frequency, to decoder, 30. Controller, 20, then transmits a particular preprogrammed wireless-5 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 5 is inputted to decoder, 30. Receiving said wireless-5 instruction causes control processor, 39J, to cause all apparatus of decoder, 30, to commence receiving, detecting, and processing SPAM message information embedded in the inputted frequency of interest.  Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40. Controller, 20, then transmits a particular preprogrammed radio-99.0 instruction to control processor, 44J, that informs said processor, 44J, 99.0 MHz is inputted to decoder, 40. Receiving said radio-99.0 instruction causes control processor, 44J, to cause all apparatus of decoder, 40, to commence receiving, detecting, and processing SPAM message information embedded in the inputted frequency of interest.
Column 8 lines 32-35.	The controller, 20, can instruct signal decoders, 30 and 40, when, where, and how to look for signal words, which allows signal words to be received in any pattern or patterns.	Page 33 lines 18-20.  For example, page 290 line 11 to page 291 line	Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...  ... executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM



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information that subscriber station apparatus can receive and process; ...			
Column 8 lines 38-39.	...[Controller, 20 can instruct buffer/comparator 8] how to determine which signals to pass to decrypter, 10.	Page 39 lines 16-21.	Controller, 20, has capacity to preprogram (or reprogram) all said decoder apparatus, 27, 28, 29, 30, and 40, and thereby controls the fashions of detecting, correcting, converting, modifying, identifying, transferring, and other functioning of said decoders.  Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...  Then said decrypt-with-J instructions cause controller, 20, to activate the output capacity of buffer/comparator, 8, that outputs to decryptor, 10; ...  Controller, 20, is preprogrammed with ... Using preprogrammed information and instructions as required, said decrypt-a-00-header-message instructions transfer the received binary information of said second message from buffer/comparator, 8, to decryptor, 10, in the same fashion that the aforementioned transfer-a-00-header-message instructions controlled the transfer of the information of said message from controller, 39, to buffer/comparator, 8.  Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...
Column 8 lines 39-40.	[Controller, 20] can tell decrypter, 10, when and how to change decryption patterns, fashions, and techniques.	Page 33 lines 18-20.  For example, page 147 lines 29-31.  For example, page 148 lines 4-16.	Among said preprogrammed instructions is key information of J, and said instructions cause controller, 20, automatically to select and transfer said key information to decryptor, 10.  Decryptor, 10, receives said key information and automatically commences using it as its key for decryption.  Decryptor, 10, commences ... decrypting ... Said decrypt-a-00-header-message instructions cause controller, 20, to cause decryptor, 10, to transfer the first H bits without decrypting or altering said bits in any fashion, to decrypt and transfer the next X bits, to transfer the next L bits without decrypting or altering said bits, to decrypt and transfer the next MMS-L bits, and finally, to transfer any bits remaining after the last of said MMS-L bits without decrypting or altering said bits. In this fashion, the cadence information in said message, which is not encrypted, is transferred by

**Specification Correlation Chart**

1987 Spec Reference	1987 Language	1987 Spec Reference	1987 Language
Column 8 lines 40-44.	[Controller, 20] can tell processor or monitor, 12, how to determine which signals to pass externally and when and where and how to determine which signals to pass to buffer/comparator, 14.	Page 33 lines 18-20.  Page 149 lines 8-15.    For example, page 150 lines 29-35.    For example, page 152 line 19 to page 153 line 1.	decryptor, 10, to controller, 12, without alteration.  Controller, 20, has capacity for controlling the operation of all elements of the signal processor and ...  Then said ... instructions cause controller, 20, to transmit to controller, 12, a particular transfer-decrypted-message instruction and particular decryption mark information of key J that identifies J as the decryption key. Receiving said instruction and information causes controller, 12, to execute particular preprogrammed transfer- and-meter instructions ...  Automatically, controller, 12, executes preprogrammed transfer-to-205-@12 instructions; activates the output port that outputs to SPAM- controller, 205C; then commences transferring information of said decrypted information of the second message under control of said transfer-and-meter instructions commencing with the first of said H bits and transferring information, ...  ... causes controller, 12, to cease transferring information, under control of said transfer-and-meter instructions, to deactivate all output ports, and to commence executing the meter instructions of said transfer-and-meter instructions. Said meter instructions cause controller, 12, ... to transfer to buffer/comparator, 14, particular header identification information that identifies controller, 12, as the source of said transfer the information recorded at said SPAM-meter memory then the information recorded at said decryption-mark-@12 register memory, which information is the decryption mark of key J. (Hereinafter, said meter information generated by the second combining synchronizing command in example #2 is called the "2nd meter information (#2).")
Column 8 lines 44-46.	[Controller, 20] can tell buffer/comparator, 14, what and how to count, what and how to mark signals, and what received signals to discard.	Page 32 lines 20-21.  Page 32 lines 10-13.	Buffer/comparator, 14, operates under control of controller, 20, ...  ... buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information and for incorporating count information into signal records.

1980 Specification Reference	1981 Language	1987 Specification Reference	1987 Language	Specification Correlation Chart
		For example, page 223 lines 22-33.	Said match causes controller, 20, to execute said instructions. Under control of said first set, controller, 20, initiates assembly of said first meter record by selecting and placing at particular record locations at buffer/comparator, 14, particular record format information, then program unit information from a particular meter-monitor field of said 1st meter & monitor information (#4), origin of transmission information from a second field, date and time of transmission information from a third field, decryption key information from the decryption mark of said 1st meter & monitor information (#4), and finally date and time of processing information from clock, 18.	
Column 8 lines 46-50.	The controller, 20, also inputs the digital recorder, 16, to direct it to output the information from the memory of the recorder, 16, to telephone connection, 22, and thence to the collection site at the remote geographical location.	For example, page 224 lines 12-16.	When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, in a predetermined fashion then discard all information of said record from its memory and to ...	
		Page 33 lines 18-20.	Controller, 20, has capacity for controlling the operation of all elements of the signal processor ...	
		Page 273 lines 4-6.	The first stage of said sequence involves transferring audit information to a particular first host computer at a first remote station.	
		Page 273 lines 21-25.	... causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.	
Column 8 lines 50-55.	The controller, 20, also controls the automatic telephone dialing device, 24, to allow the apparatus to automatically output its own information in accordance with a predetermined sequence and to change telephone numbers dialed as required.	Page 273 lines 6-8.	Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number.	
		Page 274 lines 11-13.	Controller, 20, transfers the telephone number, 1-800-CHARGES, to auto dialer, 24, and causes the dialing of said number.	
Column 8 lines 56-58.	To facilitate the operation of the device, the controller, 20, can receive information from all operating elements of the apparatus.	Page 33 lines 18-21.	Controller, 20, has capacity for ... all elements of the signal processor and can receive operating information from said elements.	
Column 8 lines 58-60.	Control signals can be passed to the apparatus by means of the programming transmissions input at switch, 1, and mixer, 2.	Page 290 lines 26-31.	... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable	

**Specification Correlation Chart**

			control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200, and to input said selected to TV signal decoder, 30; ...	
			In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...	Page 291 lines 21-24.
			A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.	Page 59 lines 29-31.
Column 8 lines 60-62.	An example of such a control signal is an instruction for the apparatus to contact a remote telephone unit.		... causes said controller, 20, again to cause said switch, 1, and said mixer, 3, to input the transmission of said master channel to said decoder, 30, and to cause said decoder, 30, to commence processing to detect a SPAM end of file signal.	Page 402 lines 22-26.
			Said message is detected at said decoder, 30, and inputted to the controller, 39, of said decoder, 30.	Page 403 lines 7-12.
			Receiving said message causes said controller, 39, to transmit said Read-Meters-of-Selected-Stations SPAM message to the controller, 20, of the signal processor, 200, of said station.	
			Executing said ones causes controller, 20, to transmit the current reading information of utilities meter, 262, to a remote metering station computer and cause said computer to process said information. Automatically, controller, 20, ... activates telephone connection, 22; inputs a particular telephone number ...	Page 405 lines 20-29.
Column 8 lines 62-65.	The processor unit, 12, has the capacity to identify instruction signals for controller, 20, and pass them to controller, 20, over control information lines.		A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.	Page 59 lines 29-31.
			Said contained messages that are addressed to apparatus such as decoder, 30, PRAM controller, 20, and switch controller, 20A, that exist within the equipment case of a signal processor, 200, are inputted to said apparatus from controller, 12, via controller, 20, rather than via matrix switch, 259 ...	For example, page 531 lines 17-22.
Column 8 lines 65-68.	Buffer/comparator, 14, has the capacity to pass received time signals to the controller, 20, in a predetermined fashion set by		(In circumstances where information collecting and processing functions are extensive--for example, when a	Page 32 lines 24-32.



### Specification Correlation Chart

**IX. COLUMN 9**

Appendix C  
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**Specification Correlation Chart**

	signal for subsequent identification of the channel.		<p>Automatically, oscillator, 6, causes mixer, 3, to select the frequency of channel 13 and input said frequency to decoder,</p> <p>30. Controller, 20, then transmits a particular preprogrammed wireless-13 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 13 is inputted to decoder, 30.</p> <p>... commence transferring information from control processor, 39J, to buffer/comparator, 8, then to transmit a message that consists of binary information of a "00" header then the execution segment information of the pseudo command then a meter-monitor segment containing said monitor information in RAM (including the associated channel mark and the format information of said information) then any padding bits required to end said message. (Hereinafter, said message is called the "3rd-old-program-message (#5)".) ...</p> <p>Receiving any given old programming message causes onboard controller, 14A, to ... determine that the channel mark ... in said old programming message matches the channel mark ... of a selected monitor information record previously initiated ...</p> <p>Recorder, 16, may inform controller, 20, automatically when it reaches a certain level of fullness.</p> <p>In each example, ... recorder, 16, measures the quantity of its recording capacity that holds signal records, in a predetermined fashion, and determines that said quantity is equal to or greater than said particular fullness information. Said determining causes recorder, 16, to transfer a particular instruct-to- call instruction to controller, 20, that causes controller, 20, to activate telephone connection, 22, and proceed with a particular preprogrammed telephone signal record transfer sequence that is fully automatic.</p> <p>The first stage of said sequence involves transferring audit information to a particular first host computer at a first remote station. Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number.</p> <p>Automatically said second computer responds with a</p>
Column 9 lines 8-10.	Digital recorder, 16, can tell the controller, 20, when it reaches predetermined levels of fullness...	Page 260 lines 5-13.	
Column 9 lines 10-12.	to permit the controller, 20, to instruct auto dialer, 24, to contact an appropriate remote site allowing the recorder, 16, to output its data	Page 270 lines 5-12.	
Column 9 lines 13-16.	...making memory available. In normal operation, controller,	Page 33 lines 4-6.	
		Page 272 line 26 to page 273 line 8.	
		Page 275 line 33 to	

**Specification Correlation Chart**

Column 9 lines 16-19.	20, may be instructed by the remote site to erase recorder, 16, which instruction controller, 20, effects through communication with recorder, 16;...  ...however, controller may ignore such an instruction in a predetermined fashion, if the information in recorder, 16, is to be conveyed to more than one remote sites.	page 276 line 2.  Page 273 line 30 to page 274 line 10.	particular transmission complete signal that causes controller, 20, to terminate said telephone call then to cause recorder, 16, to erase from memory all said meter charge information.  Automatically said first computer determines, in a predetermined fashion, that the audit information has been received correctly and completely, and said determining causes said first computer automatically to transmit a particular transmission complete signal to controller, 20. Receiving said complete signal causes controller, 20, to cause telephone connection, 22, to terminate said telephone call. Then controller, 20, transfers information to recorder, 16, that causes recorder, 16, to erase from memory all said record and other information that is <i>not also meter charge information or monitor information</i> . Having completed the first stage, controller, 20, then commences automatically the second stage of said sequence which involves <i>transferring meter charge information</i> to a particular second host computer at a second remote station.
Column 9 lines 20-21.	The controller, 20, can shut off any element or elements of the apparatus in whole or in part.	Page 33 lines 21-23.	Controller, 20, has capacity to turn off any element or elements of controlled subscriber station apparatus, in whole or in part, ...
Column 9 lines 21-22.	It is interactive with external sources via telephone connection, 22,...	Page 273 lines 6-19.	Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. Said first computer answers said telephone call, and in a fashion well known in the art, controller, 20, and said first computer automatically establish telephone communications. Automatically, controller, 20, causes telephone connection, 22, to transfer particular identifying information that includes the unique digital identifying code of ROM, 21, to said first computer followed by a particular instruct-to-receive signal. Said instruct-to-receive signal causes said first computer automatically to prepare to receive audit records then to transfer a particular start signal via connection, 22, to controller, 20.
Column 9 line 23.	...and can be reprogrammed from such remote sources.	Page 537 lines 6-17.	At 3:10 AM, GMT, said <i>European master network station</i> transmits particular SPAM message information, embedded in the information of said master transmission, including a SPAM end of file signal and the aforementioned sequence of SPAM messages that contain

**Specification Correlation Chart**

			<p>operating system instructions. In so doing, said European master network station inputs operating system instructions to all SPAM apparatus and receiver station computers, 73, and microcomputers, 205, thereby causing said apparatus and computers, 73 and 205, as described above in "PREPROGRAMMING RECEIVER STATION OPERATING SYSTEMS," to commence operating under control of the instructions of said operating systems.</p> <p>...particular information of said TELEPHON.EXE module that causes ... signal processor, 200, to transmit the information ... via telephone network in the fashion of example #10, to a computer at a particular remote data collection station.</p> <p>Over the course of a particular time such as two days, computers at remote data collection stations receive data automatically from each farmer of said nations which data indicates the specific quantity of each crop that each farmer expects to harvest during the 2027 growing season. Automatically, the received data is aggregated, in a fashion well known in the art, at the computer of said <i>European master network</i> origination and control station ...</p> <p>Then, at 3:59 PM, on Thursday, February 18, 2027, the cycle of generating and communicating information of farmers is repeated ...</p>	<p>with respect to page 555 line 24 to page 556 line 14.</p>
Column 9 line 26.	<b>Operation of Signal Processor Apparatus</b>		<p>See generally Page 86 line 31 to page 278 line 20</p>	<b>Operating Signal Processor Systems ... Introduction</b>
Column 9 lines 27-31.	The simplest forms of signal processor apparatus are each of the five paths described in Figures 2A, 2B, and 2C. Each path, by itself, is capable of identifying signals in the portions of programming transmissions that each receives.	<p>Page 34 lines 18-20.</p> <p>Page 17 lines 11-16.</p> <p>Page 15 lines 18-22.</p>	<p>Signal decoder apparatus such as decoder, 203, in Fig. 1 and decoders, 30 and 40, in Fig. 2 are basic in the unified system of this invention.</p> <p>Fig. 2A is a block diagram of a TV signal decoder apparatus.</p> <p>Fig. 2B is a block diagram of a radio signal decoder apparatus.</p> <p>Fig. 2C is a block diagram of an other signal decoder apparatus.</p> <p>... transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches,</p>	

**Specification Correlation Chart**

Column 9 lines 31-33.	A digital signal is embedded by conventional generating and encoding means and transmitted in a television, radio or other transmission.		working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...
		Page 22 lines 1-6.	... a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission, signal unit by signal unit and word by word, until said series has been transmitted in full.
		Page 14 line 35 to page 15 line 2.	Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio.
		Page 36 lines 2-3.	... processes signal information embedded in an inputted radio frequency.
		Page 36 lines 19-20.	... processes signal information embedded in a frequency other than a television or radio frequency.
Column 9 lines 33-40.	Each path is capable of receiving a transmission or a portion of a transmission and detecting digital signals in that portion and transmitting said signals to in-line equipment for further processing. Each of the paths described in FIGS. 2A, 2B, and 2C can identify and process only signals embedded in the particular transmission channel inputted to said paths.	Figs. 2A-2C. Page 35 lines 1-6.	<i>See figures.</i> The apparatus of these separate paths are designed to act on the particular frequency ranges in which embedded signal information may be found. The first path, designated A, detects signal information embedded in the video information portion of said television channel signal.
		Page 35 lines 16-18.	The second path, designated B, detects signal information embedded in the audio information portion of said television channel signal.
		Page 35 lines 27-30.	The third path, designated C, inputs the separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal...
		Page 36 lines 1-3.	Fig. 2B shows a radio signal decoder that detects and processes signal information embedded in an inputted radio frequency.
		Page 36 lines 18-20.	Fig. 2C shows a signal decoder that detects and processes signal information embedded in a frequency

**Specification Correlation Chart**

			Page 37 lines 26-28.	other than a television or radio frequency.
Column 9 lines 41-44.	The signal processor apparatus described in FIG. 1 can identify such signals in multiple and variable locations in multiple and variable modes, channels, and transmissions.		Page 248 line 13 to page 271 lines 30.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. <i>See generally.</i>
Column 9 lines 44-47.	Such signals may be transmitted over and over continuously in such transmissions or they may be transmitted over and over only for predetermined time intervals.		Page 457 line 12 to page 463 line 28. Page 14 lines 3-6.	<i>See generally.</i>  In programming transmissions, given signals may run and repeat, for periods of time, continuously or at regular intervals. Or they may run only occasionally or only once. They may appear in various and varying locations.
Column 9 lines 47-52.	The controller, 20, is programmed to sequence the local oscillator, 6, to select each desired frequency for a specific time interval in accordance with a predetermined pattern. This pattern may be selected in accordance with standard broadcast and cablecast practices known to exist on that transmission line or frequency.		Page 248 line 17 to page 249 line 5.  Page 257 line 24 to page 258 line 19.	Signal processor, 200, is preprogrammed with information that identifies each cable and over-the-air (hereinafter, "wireless") transmission or frequency in the locality of the subscriber station of Fig. 3 as well as the standard broadcast and cablecast practices that apply on said transmissions and frequencies. ... In a predetermined fashion, controller, 20, controls oscillator, 6, to sequence local oscillator, 6, in the pattern: cable channel 2, cable channel 4, cable channel 7, cable channel 13, wireless channel 5, wireless channel 9, wireless channel 13, then to repeat said pattern.  Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ... Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.
Column 9 lines 53-55.	The local oscillator, being thus sequenced, will allow each signal decoder, 30 and 40, to receive a particular frequency at		Page 257 line 24 to page 258 line 19.	Said detection-complete information causes controller, 20, to cause oscillator, 6, to cause the selection of the next

**Specification Correlation Chart**

	a particular time interval.		<p>channel in the predetermined television channel selection pattern: wireless channel 9. Automatically oscillator, 6, causes mixer, 3, to select the frequency of channel 9 and input said frequency of interest, at a fixed frequency, to decoder, 30 ...</p> <p>Controller, 20, has capacity for keeping track of elapsed time, and after determining in a predetermined fashion that a particular predetermined period of time has elapsed from the input of wireless channel 9 to decoder, 30, controller, 20, ... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13.</p> <p>Said radio-detection-complete information causes ... controller, 20, to cause oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 99.0 MHz. Automatically oscillator, 6, causes mixer, 2, to select said frequency and input it, at a fixed frequency, to decoder, 40 ...</p> <p>After determining, in a predetermined fashion, that a particular predetermined period of time has elapsed from the input of said 99.0 MHz frequency to decoder, 40, controller, 20, ... causes oscillator, 6, to cause the selection of the next frequency in the predetermined radio frequency selection pattern: 100.0 MHz.</p>
Column 9 lines 55-57.	This will define the timing of the composite outputs of the digital detectors, 34, 37, and 38 in FIG. 2A, and 43 in FIG. 2B.	Page 265 line 27 to Page 266 line 21.	<p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program which is the message of the first combining synchronizing command.</p> <p>Receiving said embedded information causes the binary SPAM information of said first command, with error correcting information, to be detected at detector, 34; ...</p> <p>... said information to radio decoder, 42, which decodes the the embedded signal information of said command and transmits said signal information to digital detector, 43, which detects the binary information with error correcting bit information of said command and transfers said binary and bit information to controller, 44.</p>
		Page 250 lines 13-17.  Page 251 lines 8-11.  Page 263 lines 19-24.	

1981 Spec/Reference	1981 Language	1987 Spec/Reference	1987 Language
Specification Correlation Chart			

Column 9 lines 57-63.	The same controller will control buffer/comparator, 8, to discard received duplicate and partial signals, to mark signals with correct channel identifiers, to transfer signals to decryptor, 10, and processor or monitor, 12, as required, and to perform such other functions as buffer/ comparator, 8, performs.	Page 37 lines 26-28.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46.
		Page 146 line 31 to page 147 line 3.	Said failures to match cause the controllers, 20, of said stations automatically ... to cause said buffer/comparators, 8, to discard all received information of said second message; and to cause ... said buffer/comparators, 8, to commence processing in the conventional fashion.)
		Page 258 lines 17-25.	... causes oscillator, 6, to cause the selection of the next channel in the predetermined television channel selection pattern: wireless channel 13. Automatically, oscillator, 6, causes mixer, 3, to select the frequency of channel 13 and input said frequency to decoder, 30. Controller, 20, then transmits a particular preprogrammed wireless-13 instruction to said control processor, 39J, that informs said processor, 39J, wireless channel 13 is inputted to decoder, 30.
		Page 260 lines 5-13.	... commence transferring information from control processor, 39J, to buffer/comparator, 8, then to transmit a message that consists of binary information of a "00" header then the execution segment information of the pseudo command then a meter-monitor segment containing said monitor information in RAM (including the associated channel mark and the format information of said information) then any padding bits required to end said message. (Hereinafter, said message is called the "3rd-old-program-message (#5)".)
		Page 147 lines 29-31.	Then said decrypt-with-J instructions cause controller, 20, to activate the output capacity of buffer/comparator, 8, that outputs to decryptor, 10;
		Page 149 lines 17-20.	Next said decrypt-a-00-header-message instructions cause
		Page 149 lines 27-29.	controller, 20, to cause buffer/comparator, 8, to transfer to decryptor, 10, a quantity of signal words of said binary information of the second message ...



### Specification Correlation Chart

Column 9 lines 63-65.	The controller, 20, instructs decrypter, 10, what to decrypt and in what fashion.	Page 147 lines 23-28.  Page 149 line 27 to page 150 line 6.	<p>Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it to controller, 12, ...</p> <p>Among said preprogrammed instructions is key information of J, and said instructions cause controller, 20, automatically to select and transfer said key information to decryptor, 10.</p> <p>Decryptor, 10, receives said key information and automatically commences using it as its key for decryption.</p> <p>Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it to controller, 12, as quickly as controller, 12, accepts it. The process of decryption proceeds in a particular fashion. Said decrypt-a-00-header-message instructions cause controller, 20, to cause decryptor, 10, to transfer the first H bits without decrypting or altering said bits in any fashion, to decrypt and transfer the next X bits, to transfer the next L bits without decrypting or altering said bits, to decrypt and transfer the next MMS-L bits, and finally, to transfer any bits remaining after the last of said MMS-L bits without decrypting or altering said bits. In this fashion, the cadence information in said message, which is not encrypted, is transferred by decryptor, 10, to controller, 12, without alteration.</p> <p>Then said decrypt-a-00-header-message instructions cause controller, 20, to transmit to controller, 12, a particular <i>transfer-decrypted-message instruction</i> and particular decryption mark information of key J that identifies J as the decryption key.</p> <p>Receiving said instruction and information causes controller, 12, to execute particular preprogrammed <i>transfer- and-meter instructions</i> then record said mark of key J at particular decryption-mark-@12 register memory.</p> <p>Under control of said <i>transfer-and-meter instructions</i>, controller, 12, commences receiving decrypted information of the second message from decryptor, 10.</p> <p>Automatically controller, 12, processes said information of the second message of example #2 as a SPAM.</p>
Column 9 lines 65-68.	[Controller, 20] instructs processor or monitor, 12, how to identify what signals to pass externally and where to pass them and what signals to transfer to buffer/comparator, 14.	Page 149 lines 8-16.  Page 150 lines 7-9.  Page 150 lines 16-21.	

**Specification Correlation Chart**

		Page 152 line 18 to page 153 line 1.	<p>command. Receiving the header and execution segment causes controller, 12, to determine that said message is addressed to URS microcomputers, 205, and to transfer said message accordingly.</p> <p>Receiving said complete-transfer-phase instruction causes controller, 12, to cease transferring information, under control of <i>said transfer-and-meter instructions</i>, to deactivate all output ports, and to commence executing the meter instructions of said transfer-and-meter instructions. Said meter instructions cause controller, 12, to ... transfer to buffer/comparator, 14, particular header identification information that identifies controller, 12, as the source of said transfer the information recorded at said SPAM-meter memory then the information recorded at said decryption-mark- @12 register memory, which information is the decryption mark of key J. (Hereinafter, said meter information generated by the second combining synch command in example #2 is called the "2nd meter information (#2).")</p>
Column 9 line 68 to column 10 line 2.	The controller, 20, instructs buffer/comparator, 14, what signals to discard and how to mark signals and assemble signal strings.	Page 32 lines 20-21.  Page 223 lines 22-33.   	

### Specification Correlation Chart

		then discard all information of said record from its memory and to cause recorder, 16, to process and record said transferred meter record in its preprogrammed fashion.
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**X. COLUMN 10**

Column 10 lines 2-4.	The controller activates digital recorder, 16, thus defining the location in memory of each of the signals and signal strings.	Page 224 lines 12-18.	When said second set is completed, controller, 20, executes said third specified set which causes controller, 20, to cause buffer/comparator, 14, to transfer said second meter record to recorder, 16, ... and to cause recorder, 16, to process and record said transferred meter record in its preprogrammed fashion.
Column 10 lines 4-8.	The controller, 20, also controls the automatic telephone dialing device, 24, which can automatically output the digital information on the digital recorder, 12, to a remote site through a telephone connection, 22.	Page 273 lines 6-11.  Page 273 lines 21-25.	Controller, 20, transfers the telephone number, 1-800-AUDITOR, to auto dialer, 24, and causes said dialer, 24, to dial said number. Said first computer answers said telephone call, and in a fashion well known in the art, controller, 20, and said first computer automatically establish telephone communications.  ... causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.
Column 10 lines 8-10.	The controller, 20, can also set the proper time into clock, 18, should this step be necessary.	Page 290 lines 14-16.  Page 33 lines 18-21.	Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval....  Controller, 20, has capacity for controlling the operation of all elements of the signal processor....
Column 10 lines 10-13.	The controller, 20, operates in a predetermined fashion that can be altered by external means communicating by means of the telephone connection, 22.	Page 273 lines 16-25.	Said instruct-to-receive signal causes said first computer automatically to prepare to receive audit records then to transfer a particular start signal via connection, 22, to controller, 20. Receiving said start signal, sent automatically in response to controller, 20's, instruct-to-receive signal, causes controller, 20, to cause recorder, 16, to transmit all recorded meter audit records and particular other audit information to telephone connection, 22, which causes said connection, 22, to transmit said records and information to said first computer.
Column 10 line 14.	Method of Use at an Intermediate Transmission Point	See generally page 324	Automating Intermediate Transmission Stations

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language	Specification Correlation Chart
Column 10 lines 15-20.	The signal processing apparatus outlined in FIGS. 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programming or a cable system cablecasting many channels.	line 7 to page 390 line 11. Page 324 lines 8-17.	The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously. ...stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming....	
Column 10 lines 20-23.	They can be used in a facility transmitting television programming, radio programming, and making other electronic transmissions.	Page 324 lines 12-14.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.	
Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. Figure 3 illustrates the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programming.	Page 324 lines 18-21.	The means and methods for transmitting conventional programming are well known in the art.	
Column 10 lines 28-30.	The means for and method of transmission of programming described here is well known in the art.	Page 324 lines 21-23.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	
Column 10 lines 30-39.	The facility receives programming from many sources. Transmissions may be received from satellites by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions can be received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions can be received by antenna, 60, and TV demodulator, 61. Other electronic programming input means, 62, can receive programming transmissions.	Page 324 lines 23-31.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire....	
Column 10 lines 40-41.	All of these received transmissions feed into the facility by hard-wire and...	Page 324 lines 31-33.	...a conventional matrix switch, 75, well known in the art,....	
Column 10 lines 41-42.	...connect, by means of conventional switches (here matrix switch, 75), to...	Page 324 line 34.	...one or more recorder/players, 76 and 78,....	
Column 10 lines 42-43.	...and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system,	Page 324 line 35.	...apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.	
Column 10 lines 43-47.		Page 325 lines 1-4.		

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
<b>Specification Correlation Chart</b>			

92.			
Column 10 lines 48-49.	Programming can also be manually delivered to the facility on prerecorded video tapes and videodiscs.	Page 325 lines 5-6.	Programming can also be manually delivered to said station on prerecorded videotapes and videodiscs.
Column 10 lines 49-52.	When played on video recorder and players, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted to the field.	Page 325 lines 6-9.	When played on video recorders, 76 and 78, or other similar equipment well known in the art, such prerecorded programming can be transmitted via switch 75 to field distribution system, 93.
Column 10 lines 53-57.	In the present art, the identification of incoming programming, however received; the operation of video player and recorder equipment, 76 and 78; and the maintenance of records of programming transmissions are all largely manual operations.	Page 325 lines 10-14.	In the prior art, the identification of incoming programming, however received; the operation of video player and recorder equipment, 76 and 78; and the maintenance of records of programming transmissions are all largely manual operations.
Column 10 lines 58-60.	FIGS. 3A, 3B and 3C shows the introduction of signal processing apparatus and methods to automate these and other operations.	Page 325 lines 15-16.	Fig. 6 shows the introduction of signal processing apparatus and methods to automate these and other operations.
Column 10 lines 61-63.	Incoming programming transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62.	Page 324 lines 23-31.	The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
Column 10 lines 63-64	They are fed along the conventional paths described above.	Page 324 lines 31-33.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire....
Column 10 lines 64-66.	At distribution amplifiers, 63 through 70, each incoming feed is split into two paths.	Page 325 lines 17-21.	In line between each of the aforementioned receiver/modulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, and matrix switch, 75, is a dedicated distribution amplifier, 63, 64, 65, 66, 67, 68, 69, or 70, that splits each incoming feed into two paths.
Column 10 line 66 to Column 11 line 1.	One is the conventional path whereby programming has flowed and continues to flow to recording devices, 76 and 78, and/or to flow to field distribution system, 93.	Page 325 lines 21-24.	One path is the conventional path whereby programming flows from each given receiver/modulator/input apparatus, 53, 54, 55, 56, 57, 58, 59, 60, 61, or 62, to matrix switch, 75.
		Page 324 line 31 to page 325 line 4.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a conventional matrix switch, 75, well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to apparatus that outputs said transmissions



1987 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
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# **Specification Correlation Chart**

	the cable head end facility should expect to receive the programming.		station should expect to receive each program unit,....
Column 11 lines 28-31.	Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.	Page 326 line 33 to page 327 line 2.	Such input information can indicate when and how the station should expect to receive each program unit, when and on which channel or channels and how the station should transmit the unit,....
Column 11 lines 32-37.	By means of the signals, with channel indicators, received from code reader, 72, controller/computer, 73, can determine what specific programming and programing unit has been received by each receiver, 53 through 62, and is passing in line on each individual wire to matrix switch, 75.	Page 328 lines 2-7.	By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75.
Column 11 lines 38-39.	By comparing identification signals on the incoming programming...	Page 327 line 35 to page 328 line 13.	Computer, 73, monitors incoming programming by means of the aforementioned dedicated decoders of signal processor system, 71. By means of the SPAM message information, with source mark information, received from code reader, 72, computer, 73, determines what specific program unit has been received by each receiver, 53 through 62, and is passing in line, via each distribution amplifier, 63 through 70, to matrix switch, 75. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit.
		Page 84 lines 26-28.	SPAM signals are generated at original transmission stations or intermediate transmission stations and embedded in television or radio or other programming transmissions....
		Page 28 lines 26-27.	...monitor information that identifies what programming is available,....
		Page 49 lines 26-27.	Meter-monitor segments contain meter information and/or monitor information.
Column 11 line 39.	with the programming schedule...	Page 328 lines 9-10.	... with information of the programming schedule,....
Column 11 lines 39-41.	...received earlier from local input, 74, and/or from a remote site via network, 98,...	Page 328 line 10.	...received earlier from input, 74, and/or network, 98, computer, 73,....
		Page 326 lines 28-30.	...receiving input information from local input, 74, and from

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
<b>Specification Correlation Chart</b>			
Column 11 lines 41-43.	... controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programming.		remote stations via telephone or other data transfer network, 98.
Column 11 lines 44-46.	Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.	Page 328 lines 11-13.	... computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ... Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, ...
Column 11 lines 46-50.	If incoming programming is meant for immediate transmission, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer incoming programming to the proper output channel.	Page 328 lines 14-16.	Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel.
Column 11 lines 50-54.	For example, if controller/computer, 73, determines that programming incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, ...	Page 328 lines 18-22.	For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine ... that said "code" information matches ... schedule information of programming that is scheduled to be retransmitted immediately upon receipt to field distribution system, 93, via cable channel modulator, 87.
Column 11 lines 54-57.	... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programming transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.	Page 328 line 31 to page 329 line 1.	In its preprogrammed fashion, so determining causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 63) to matrix switch, 75, from TV receiver, 53, to that output of matrix switch, 75, that outputs to modulator, 87.
Column 11 lines 57-60.	Similarly, if controller/computer, 73, determines that incoming programming should be recorded for delayed transmission, ...	Page 329 line 2-20.	Determining that particular incoming programming is scheduled for time deferred transmission can cause computer, 73, to cause the recording of said programming. For example, computer, 73, receives a given SPAM message that contains given "program unit identification code" information. ... Receiving said message causes computer, 73, to determine, ... that said "code" information matches ... schedule information of programming that is scheduled to be ... transmitted to the field system, 93, at a later time. So determining causes computer, 73, ... to select a video recorder/player, 76 or 78; ... and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
Column 11 lines 60-61.	... controller/ computer, 73, selects a video recorder/player,	Page 329 lines 13-15.	So determining causes computer, 73, ... to select a video



**Specification Correlation Chart**

Column 11 lines 61-64.	76 or 78, ... ... in a predetermined fashion, to record the incoming programming, instructs matrix switch, 75, to transfer the programming to the designated recorder/player, 76 or 78, ...	Page 329 lines 13-20.	recorder/player, 76 or 78; ... ... in its preprogrammed fashion, ... to ... record programming; and to cause matrix switch, 75, to configure its switches so as to transfer the programming transmission inputted (via distribution amplifier, 67) from television receiver, 58, to the output that leads to said selected recorder, 76 or 78.
Column 11 lines 64-65.	... and instructs the recorder/player, 76 or 78, to turn on and record the programming.	Page 329 line 15-16.	... to cause said selected recorder, 76 or 78, to turn on and record programming, ...
Column 11 lines 66-67.	Recorder/players, 76 and 78, can communicate programming with each other through matrix switch, 75.	Page 332 lines 24-30.	... causes computer, 73, ... to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record ... unit D.
Column 11 line 67 to Column 12 line 1.	If controller/ computer, 73, determines at any time that it is necessary ...	Page 333 lines 15-21.	Computer, 73, causes ... switch, 75, to configure its switches so as to transfer the output of recorder, 78, to the input of recorder, 76. Computer, 73, causes recorder, 78, to play and recorder, 76, to record for the duration of program unit Y. ...
		Page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. ... Caused to organize the locations of said units to play according to said schedule, computer 73, ...

**Specification Correlation Chart**

**XII. COLUMN 12**

Column 12 lines 1-3. ... to reorganize the order in which programming units are stored on either recorder/player or on both, ...	Page 331 lines 16-25.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first.
	Page 334 lines 1-6.	In this fashion, computer, 73, causes units Y and W to be located on different recorders because said units are scheduled to be transmitted simultaneously and units Y then D to be located in sequence on the same recorder because unit D is scheduled to play on the same channel immediately after Y.
For column 12 lines 3-8 see the support provided above for column 16 line 67 to column 12 line 8.	If controller/ computer, 73, determines at any time that it is necessary ...  For example, page 331 lines 17-33.	Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming on recording media such as magnetic video tapes loaded on a plurality of recorder/players to play according to a given schedule. For example, four spot commercials--program units Q, Y, W, and D—are loaded on 76 and 78. D and Q are recorded on the video tape loaded on recorder, 76, with D first. W and Y are recorded on the tape on recorder, 78, with W first. According to the schedule recorded at computer, 73, Q should play first on the cable channel modulated by cable channel modulator, 83; then subsequently Y and W should start to play simultaneously on the channels modulated by modulators, 83 and 87 respectively; then D should play on the channel modulated by modulator, 83, immediately after Y ends. Caused to organize the locations of said units to play according to said schedule, computer 73, ...
	For example, page 332 lines 23-31.	Determining said located space to be available causes computer, 73, to cause recorder, 76, to move forward or rewind to the start of program unit D; to cause recorder, 78, to rewind to the start of said located space; and to cause switch, 75, to configure its switches so as to transfer the output of recorder, 76, to the input of recorder, 78. Automatically, computer, 73, then causes recorder, 76, to play and recorder, 78, to record for the duration of program



1981 Spec/Reference	1981 Language	1987 Spec/Reference	1987 Language
<b>Specification Correlation Chart</b>			
Column 12 lines 24-26.	Decoders, 80, 84, and 88, inform controller/computer, 73, what programming is passing on each cable channel and what signals the programing contains.	Page 161 lines 34-35.  Page 327 lines 24-31.	As Fig. 3A shows, the preferred embodiment of controller, 39, also has a decryptor, 39K.  Computer, 73, monitors outgoing programming by means of decoders, 80, 84, and 88. By decoders, 80, 84, and 88, to select and transfer SPAM meter-monitor information and by comparing said information to information of its contained schedule records, computer, 73, can determine whether scheduled programming is being transmitted properly to field distribution system, 93, on each cable channel of the station of Fig. 6.
Column 12 lines 26-29.	Decoders, 77 and 79, inform controller/computer, 73, what specific programming is loaded on recorder/players, 76 and 78 respectively, and what signals it contains.	Page 330 lines 5-15.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, ... Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include ... "program unit identification code" ...
Column 12 lines 29-34.	(Among other signals, a program unit could contain signals that would inform controller/computer, 73, of the distance to the beginning and end of the program unit which signals would facilitate operation of recorder/ players such as 76 and 78.)	Page 330 line 5 to Page 331 line 3.	Computer, 73, has ... capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point). ... (Such distance information can be embedded as SPAM message information segment information anywhere in the programming that SPAM information can be embedded ...
Column 12 lines 35-38	The cable head end facility also contains signal strippers, 81, 85, and 89, of which models exist well known in the art, that controller/computer, 73, can instruct to remove signals from programming as required,....	Page 354 lines 18-21.	Fig. 6 shows signal strippers, 81, 85, and 89, of which models exist well known in the art, that computer, 73, can cause to remove SPAM information from programming as required,....
Column 12 lines 38-41.	... and signal generators, 82, 86, and 90, also well known in the art, that controller/ computer, 73, can instruct to add	Page 354 lines 21-24.	... and signal generators, 82, 86, and 90, also well known in the art, that computer, 73, can cause to embed SPAM

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language	Specification Correlation Chart
	signals to programming as required.		information as required.	
Column 12 lines 45-47.	Beyond channel combining system and multiplexer, 92, amplifier, 94, transmits programming to signal processor, 71, and signal processor, 96,	Page 337 lines 1-8.	Fig. 6 shows particular signal processor system monitoring apparatus associated with the intermediate station of Fig. 6. In field distribution system, 93, amplifier, 94, inputs programming transmissions to signal processor system, 71, (where said transmissions are inputted to one alternate contact of the switch, 1, of the signal processor of said system, 71), and amplifier, 95, inputs programming transmissions to signal processor, 96, ....	
Column 12 lines 47-50.	which permits both apparatus to monitor and record all the programming transmitted by the cable television system head end facility to field distribution system, 93.	Page 337 lines 8-12	... which permits both signal processor apparatus to monitor all programming transmitted by the cable television system head end station to field distribution system, 93, in the fashion of the signal processor, 200, of Fig. 3 in example #5.	
Column 12 lines 50-53.	Such records can provide automatically for each channel the information that the Federal Communications Commission requires broadcast station operators to maintain as station logs.	Page 337 lines 12-19.	By recording all different received "program unit identification code" information in the fashion described above, said signal processor apparatus can automatically record, for each transmission channel of the station of Fig. 6, information, for example, that the U. S. Federal Communications Commission requires broadcast station operators to maintain as station logs.	
Column 12 lines 54-56.	Signal processors, 71 and 96, can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99 respectively.	Page 337 lines 19-21.	And said signal processor apparatus can transmit such records of programming to remote sites via telephone or other data transfer networks, 97 and 99, respectively.	
Column 12 lines 57-58.	This particular embodiment describes a transmission facility transmitting only television programming.	Page 339 lines 9-11.	So far this disclosure has described an intermediate transmission station that transmits conventional television programming....	
Column 12 lines 58-61.	The facility could also process and transmit radio programming and other electronic data according to the methods described here ...	Page 339 lines 11-26.	... however, the intermediate station automating concepts of the present invention apply to all forms of electronically transmitted programming. The station of Fig. 6 can process and transmit radio programming in the fashions of the above television programming ... Likewise, said station can transmit broadcast print and data communications programming by adding appropriate transmission and recorder/player means and decoder/detector means with control means and using the same processing and transmitting methods.	
Column 12 lines 61-64.	... by adding radio decoder paths and other signal decoder paths, as shown in FIGS 2B and 2C respectively, to signal processors, 71 and 96, and decoders, 77, 79, 80, 84, and 88.	Page 339 lines 16-21.	... by adding radio transmission and audio recorder/player means, each with associated radio decoder means as shown in Fig. 2B, wherever television means are shown in Fig. 6, all with similar control means to that shown in Fig. 6 and by processing radio programming with appropriately embedded signals according to the same processing and transmitting	

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
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### Specification Correlation Chart

Column 12 lines 64-66.	Likewise, these methods are also applicable in a facility that transmits only a single channel of radio or television programming.	Page 339 lines 26-29.	methods described above. This example has described methods at a multi-channel intermediate transmission station; the methods are also applicable in a station that transmits only a single channel of television, radio, broadcast print or data.
Column 12 line 67.	Methods for Governing the Reception of Programming	See generally page 278 line 22 to page 312 line 30.  See generally page 427 line 8 to page 447 line 23.	Regulating the Reception and Use of Programming

### XIII. COLUMN 13

Column 13 lines 1-3.	FIGs 4A through 4E illustrate methods for governing the reception of programming and the use of signal processor apparatus in these methods.	Page 286 line 6.	Fig. 4 shows the Signal Processing Programming Reception and Use Regulating System ....
Column 13 lines 3-9.	All of these methods involve the use of one or more devices, of which various models exist well known in the art, for the decryption of programming transmissions and/or one or more other means for interrupting programming transmissions, also well known in the art, which may be as simple as a switch...	Page 286 line 34 to page 287 line 2.	Fig. 4 shows ... three decryptors, 107, 224 and 231, a signal stripper, 229, and , ...-associated with matrix switch, 258.
Column 13 lines 9-12.	...and which may have means to interrupt programming by generating noise which noise may be an overlay of another audio and/or video transmission.	Page 279 lines 21-29.	Still other techniques, also well known in the art, involve controlling jamming means that spoil transmitted programming at stations that lack authorizing information or are determined not to be duly authorized, thereby degrading the usefulness of said programming. Such other techniques include, for example, inserting so-called "noise" into the transmitted programming which noise may be, for example, overlays of one or more separate transmissions.
Column 13 lines 13-14.	FIG 4A shows a signal processor, 100, and a programming decrypter and/or interrupt means, 101,...	Page 287 lines 22-27.	As Fig. 4 shows, signal processor, 200, controls all the aforementioned apparatus. Signal processor, 200, controls ... matrix switch, 258; ... decryptors, 107, 224 and 230;....
Column 13 lines 14-15.	...each of which receives the same transmission of programming.	Page 299 lines 19-30.	Automatically, controller, 20, causes matrix switch, 258, to transfer the ... video ... from said tuner, 215, ... to decryptor, 224, thereby causing said decryptor, 224, to receive ... said video, and to transfer decrypted information of said video ... to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 224, to ... signal processor, 200, ....

**Specification Correlation Chart**

Column 13 lines 16-17.	The devices, 100 and 101, may receive one channel of programming or multiple channels.	Page 286 lines 9-12	The subscriber station of Fig. 4 has capacity for receiving wireless television programming transmissions at a conventional antenna, 199, and a multi-channel cable transmission at converter boxes, 201 and 222.
Column 13 lines 17-20.	The signals that enable the decrypter/interrupter, 101, to decrypt and/or transfer programming uninterrupted may be embedded in the programming or may be elsewhere.	Page 291 lines 9-24	In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, ... to transmit a particular enabling SPAM message that consists of ... enable-CCI3 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, ... <i>on the frequency of said master control channel</i> . (Hereinafter said message is called the "local-cable-enabling-message (#7).") In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...  In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.  particular <b>master cable control channel (that may or may not be cable channel 13)</b> from the multi-channel cable system  Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.  Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, ...
Column 13 lines 20-21.	Signal processor, 100, identifies, evaluates, possibly decrypts, and passes...	Page 15 lines 7-31.	In the present invention, particular signal processing apparatus (hereinafter called the "signal processor") detect signals and, .... The scanners/switches, working in parallel or series or combinations, transfer the transmissions to

**Specification Correlation Chart**

Column 13 lines 21-23.	...a signal or signals to decrypter/interrupter, 101, either at the time of receipt of such programming...		<p>receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; <b>decryptors</b> that may ... and one or more processor/monitors and/or buffer/comparators that organize and transfer the information stream. The processors and buffers can have inputs from each of the receiver/detector lines and <b>evaluate</b> information continuously. From the processors and buffers, the signals may be <b>transferred</b> to external equipment such as computers,....</p> <p>Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion inputted from said tuner, 215, to the output that outputs to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm....</p> <p>The second message conveys the second combining synchronizing command. In example #2, before said message is embedded at the program originating studio and transmitted, the execution segment of said command and all of the meter-monitor segment except for the length-token are encrypted, using standard encryption techniques, well known in the art, that encrypt binary information without altering the number of bits in said information. Partially encrypting the second message in this fashion leaves the cadence information of said message unencrypted. In other words, the "00" header, the length- token, and any padding bits added at the end of said message remain unencrypted. Said message is only partially encrypted in order to enable subscriber stations that lack capacity to decrypt said message to process the cadence information of said message accurately.</p> <p>In example #2, the encryption of said execution segment is done in such a fashion that, after encryption, said segment is identical to a particular execution segment that addresses</p>
		Page 295 lines 24-35.	<p>See also page 143, lines 10-30.</p>



**Specification Correlation Chart**

Column 13 lines 23-24.	...or at a delayed time or a combination.		URS signal processors, 200, and instructs said processors, 200, to use a particular decryption key J and decrypt the message in which said segment occurs. Controller, 12, receives time information from clock, 18, and has means to delay in a predetermined fashion the transfer of signals when, in a predetermined fashion, delayed transfer is determined to be required.
Column 13 lines 24-25.	The signal or signals instruct decrypter/interrupter, 101, to decrypt the transmission...	Page 298 lines 10-21.	Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load-and-run-@20 instructions, to load the 1st-stage-enable-WSW- program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job. Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.
Column 13 lines 26-27.	...or not to decrypt the transmission or to interrupt the transmission...	Page 300 lines 30-32.	Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW- program instructions, to cause the control processor, 39J ....
		Page 301 lines 1-3.	A match occurs at the station of Fig 4, indicating that decryptor, 224, is decrypting its received information correctly.
		At a station where Page 301 lines 4-31.	(Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with—not resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program- enabling-message (#7) to be erased from all memory of said station ... thereby disabling said apparatus.)
		with respect to page 297 lines 23-29,	... a particular SPAM message that consists of ... 1st-stage-enable-WSW-program instructions. ... (Hereinafter said



**Specification Correlation Chart**

			<p>decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program transmission to matrix switch, 258.</p> <p>The second message conveys the second combining synch command. In example #2, before said message is embedded at the program originating studio and transmitted, the execution segment of said command and all of the meter-monitor segment except for the length-token are encrypted, using standard encryption techniques, well known in the art, that encrypt binary information without altering the number of bits in said information. Partially encrypting the second message in this fashion leaves the cadence information of said message unencrypted. In other words, the "00" header, the length- token, and any padding bits added at the end of said message remain unencrypted. Said message is only partially encrypted in order to enable subscriber stations that lack capacity to decrypt said message to process the cadence information of said message accurately.</p> <p>In example #2, the encryption of said execution segment is done in such a fashion that, after encryption, said segment is identical to a particular execution segment that addresses URS signal processors, 200, and instructs said processors, 200, to use a particular decryption key J and decrypt the message in which said segment occurs.</p>
Column 13 lines 29-31.	...or interrupt the programming if decrypter/ interrupter, 101, is capable of multiple means.	<p>See also page 143, lines 10-30.</p> <p>Page 300 lines 30-32.</p> <p>Page 301 lines 4-14.</p>	<p>Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW- program instructions, to cause the control processor, 391,....</p> <p>(Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--not resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program- enabling-message (#7) to be erased from all memory of said station....</p>
Column 13 lines 31-32.	The signal or signals may transmit a code or codes necessary	Page 292 lines 7-11.	Receiving said message causes controller, 20, to load the

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### Specification Correlation Chart

	for the decryption of the transmission.		<p>enable-CCI3 instructions and the enable-WSW instructions of the information segment of said message at particular RAM of controller, 20, and execute said instructions as the machine language instructions of one job.</p> <p>An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art.</p> <p>Resulting in a match causes controller, 20, to execute a particular portion of said enable-CCI3 instructions.</p> <p>Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,....</p> <p>...thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program....</p> <p>Finally, Fig. 4 shows local input, 225, well known in the art, which has means for generating and transmitting control information to controller, 20, of signal processor, 100.</p> <p>The function of local input, 225, is to provide means whereby a subscriber may input information to the signal processor of his subscriber station, thereby controlling the functioning of his personal signal processor system is specific predetermined fashions that are described more fully below.</p> <p>Fig. 4 shows the Signal Processing Programming Reception and Use Regulating System that is the third feature of the present invention.</p> <p>In example #7, the controller, 20, of the signal processor,</p>
Page 54 lines 2-6.			
Page 294 lines 28-35.			
Page 295 line 27 to page 296 line 2.			
Column 13 lines 33-35.	FIG 4A also shows local input, 102, with means for generating and transmitting signals to signal processor, 100.		
Column 13 lines 35-36.	Local input, 102, is intended to permit a person at a local receiving site...		
Column 13 lines 36-37.	...that is prevented, by any means, from receiving programming...		
Column 13 lines 37-39.	...to instruct signal processor, 100, that the site wants to be		

**Specification Correlation Chart**

	enabled to receive the programming.			200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. (So preprogramming controller, 20, can occur in several fashions. For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on- CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, by local input, 225.
Column 13 lines 39-40.	Local input, 102, may also serve other purposes.		Page 395 lines 30-33.	Local input, 225, has capacity to input control instructions to signal processor, 200, and enables the subscriber of the station of Fig. 7 to manually input control instructions at any relevant time.
Column 13 lines 40-41.	Local input, 102, may convey a continuous signal or an occasional signal or a one-time-only signal.		Page 289 lines 29-33.	For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on- CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, by local input, 225.
			Page 395 lines 30-33.	Local input, 225, has capacity to input control instructions to signal processor, 200, and enables the subscriber of the station of Fig. 7 to manually input control instructions at any relevant time.
Column 13 lines 42-43.	It may be activated by one or more switches or buttons or combinations.		Page 288 lines 9-13.	In the preferred embodiment, local input, 225, is actuated by keys that are depressed manually by the subscriber in the fashion of the keys of a so-called touch- tone telephone or the keys of a typewriter (or microcomputer) keyboard.
Column 13 lines 43-44.	It may be a computer acting in a predetermined fashion.		Page 288 lines 13-20.	As Fig. 4 shows, microcomputer, 205, also has capacity for inputting control information ..., and in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.
Column 13 lines 44-47.	The signal may be input to signal processor, 100, as described in FIG 1, at buffer/comparator, 8, or signal processor or monitor, 12, or buffer/comparator, 14.		Page 289 lines 29-33.	For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on- CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, by local input, 225.

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Column 13 lines 48-53.	In the preferred embodiment, local input, 102, inputs a one-time signal to signal processor, 100, at buffer/ comparator, 8, and transmits information in a digital code signal which information is input to local input, 102, in an alphanumeric form manually by means of buttons.	Page 288 lines 9-13.	In the preferred embodiment, local input, 225, is actuated by keys that are depressed manually by the subscriber in the fashion of the keys of a so-called touch- tone telephone or the keys of a typewriter (or microcomputer) keyboard.
Column 13 lines 54-56.	FIGs 4B and 4C illustrate various alternative ways that signals may be input to the signal processor, 100, 103, or 106 as applicable.	Page 286 lines 6-7.  Page 311 lines 17-28.	Fig. 4 shows the Signal Processing Programming Reception and Use Regulating System ...  It is obvious to one of ordinary skill in the art that the foregoing is presented by way of example only and that the invention is not to be unduly restricted thereby since modifications may be made in the structure of the various parts without functionally departing from the spirit of the invention. ... And for example, the transmitted programming may be processed through fewer than three steps of decryption or more than three.
Column 13 lines 56-60.	The fundamental point is that signals may be received in a manner that requires decryption and/or transmission by a decryptor/interruptor, 104, before they reach the signal processor, as with signal processor 103 in FIG 4B,	Page 299 lines 19-31.	Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video ... from said tuner, 215, ... to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion ... , to decrypt said information, and to transfer decrypted information of said video ... to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 224, to the output that that outputs to signal processor, 200, thereby causing signal processor, 200, to receive said information ....
Column 13 lines 60-61.	...or they may not, as with signal processor 100 in FIG 4A,...	Page 291 lines 9-24.	In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, ... , to transmit a particular enabling SPAM message that consists of ... particular enable-CCI3 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, and an end of file signal on the frequency of said master control channel. (Hereinafter said message is called the "local-cable-enabling-message (#7).")  In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, ...  ... said "Wall Street Week" program when transmission of said program on cable cable 13 commences.

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Column 13 lines 61-62.	...or some combination, as with signal processor 106 in FIG 4C.	Page 290 lines 28-29.  Page 291 lines 9-28.	<p>...particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system....</p> <p>In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, ... , to transmit a particular enabling SPAM message that consists of ... particular enable-CC13 instructions and particular enable-WSW instructions that include particular signal on the frequency of said master control channel. (Hereinafter said message is called the "local-cable-enabling-message (#7).")</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC 13 information at said particular controlled-function-invoking information location.</p> <p>... "Wall Street Week" program when transmission of said program on cable cable 13 commences.</p> <p>...particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system...</p> <p>Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video ... from said tuner, 215, ... to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion ... , to decrypt said information, and to transfer decrypted information of said video ... to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 224, to the output that that outputs to signal processor, 200, thereby causing signal processor, 200, to receive said information ....</p>
Column 13 lines 63-68.	However, FIGs 4A, 4B, and 4C do not fully illustrate this point because these figures do not reveal that the question of	Page 149 line 27 to page 150 line 6.	<p>Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it</p>

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### Specification Correlation Chart

	the need for decryption prior to reaching the signal processor depends, among other things, on where the signal or signals are placed in the incoming transmission.		to controller, 12, as quickly as controller, 12, accepts it. The process of decryption proceeds in a particular fashion. Said decrypt-a-00-header-message instructions cause controller, 20, to cause decryptor, 10, to transfer the first H bits without decrypting or altering said bits in any fashion, to decrypt and transfer the next X bits, to transfer the next L bits without decrypting or altering said bits, to decrypt and transfer the next MMS-L bits, and finally, to transfer any bits remaining after the last of said MMS-L bits without decrypting or altering said bits. In this fashion, the cadence information in said message, which is not encrypted, is transferred by decryptor, 10, to controller, 12, without alteration.
Column 13 line 68 to column 14 line 1.	A decrypter does not necessarily decrypt the entire transmission.	Page 149 line 27 to page 150 line 6.	Decryptor, 10, commences receiving said information, decrypting it using said key J information and transferring it to controller, 12, as quickly as controller, 12, accepts it. The process of decryption proceeds in a particular fashion. Said decrypt-a-00-header-message instructions cause controller, 20, to cause decryptor, 10, to transfer the first H bits without decrypting or altering said bits in any fashion, to decrypt and transfer the next X bits, to transfer the next L bits without decrypting or altering said bits, to decrypt and transfer the next MMS-L bits, and finally, to transfer any bits remaining after the last of said MMS-L bits without decrypting or altering said bits. In this fashion, the cadence information in said message, which is not encrypted, is transferred by decryptor, 10, to controller, 12, without alteration.

### XIV. COLUMN 14

Column 14 lines 1-2.	Encrypted transmissions may be only partially encrypted.	Page 288 line 30 to page 289 line 4.	In example #7, the program originating studio that originates the "Wall Street Week" transmission transmits a television signal that consists of so-called "digital video" and "digital audio," well known in the art. Prior to being transmitted, the digital video information is doubly encrypted, ... The digital audio is transmitted in the clear.
Column 14 lines 2-3.	For example, only the video portion of the transmission may be encrypted.	Page 288 line 33 to page 289 line 3.	Prior to being transmitted, the digital video information is doubly encrypted, ... The digital audio is transmitted in the clear.
Column 14 lines 4.	The audio portion may remain unencrypted.	Page 289 lines 3-4.	The digital audio is transmitted in the clear.
Column 14 lines 4-9.	In such a circumstance, a connection such as that shown in FIG 4B could pass unencrypted signals to signal processor	Page 297 lines 20-32.	Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, said



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103, while passing a transmission unsuitable for satisfactory viewing, if the signals were placed in the audio portion of the overall transmission.	103, while passing a transmission unsuitable for satisfactory viewing, if the signals were placed in the audio portion of the overall transmission.		program originating studio embeds in the audio portion and transmits a particular SPAM message that consists of ... particular 1st-stage-enable-WSW-program instructions as the information segment information, and an end of file signal. (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).") In the fashions described above, so transmitting said SPAM message causes signal processor, 200, ... to detect the information of said message ...
Column 14 lines 10-12.	...a method that provides a signal or signals to signal processor, 106, prior to decryption...	Page 291 lines 9-24.	In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CCI3 instructions and ... enable-WSW instructions ... on the frequency of said master control channel. (Hereinafter said message is called the "local- cable-enabling-message (#7).") In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message,....
Column 14 lines 12-14.	... which signal or signals enables decryptor/interruptor, 107, to decrypt and/or pass programming transmissions it receives...	Page 294 line 28 to page 295 line 34.	Resulting in a match causes controller, 20, to execute a particular portion of said enable-CCI3 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ... thereby causing said tuner, 215, to receive the information of cable channel 13 and output the audio and video portions of said information to matrix switch, 258, on the separate audio and video outputs of said tuner, 215. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion inputted from said tuner, 215, to the output that outputs to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio). Automatically, controller, 20, ... causes decryptor, 107, to commence decrypting its received audio information,....
Column 14 lines 14-17.	...then signal processor, 106, searches in a predetermined fashion for a second signal or set of signals in the decrypted output of decryptor/interruptor, 107.	Page 296 lines 3-23.	Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 107, to the output that that outputs to signal processor, 200, thereby

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			causing signal processor, 200, to receive said information at a particular third alternate contact of switch, 1, (that is not shown in Fig. 2). Automatically, controller, 20, ... causes switch, 1, to connect to said third contact, thereby inputting said information to mixer, 3; and causes mixer, 3, (by control transmission means via oscillator, 6) to transfer said information without any modification; causes the control processor, 39J, of decoder, 30, to cause the filter, 31, and modulator, 32, to transfer said information without any modification; causes said control processor, 39J, ... to cause digital detector, 38, to commence inputting detected information to controller, 39; and causes said control processor, 39J, to commence waiting to receive the header information of a SPAM message.
		Page 300 lines 10-21.	<p>In due course, but still before said 8:30 PM time, said program originating studio embeds in the video portion and transmits particular SPAM check information that is not a SPAM message and consists only of a particular check sequence of binary information followed by an end of file signal. (Hereinafter said SPAM check information is called the "1st-WSW-decryption-check (#7).") ...</p> <p>Receiving the binary information of said check sequence at decoder, 30, causes digital detector, 38, to detect said information and causes control processor, 39J, to ...</p> <p>(Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--not resulting in a match causes the controller, 20, of said station ... then to transmit the aforementioned appearance-of-tampering information together with complete information of the unique digital code that identifies said station uniquely. ... thereby disabling said apparatus.)</p>
Column 14 lines 17-21.	If this second signal or set of signals fails to appear in the form or forms and place or places and time or times that signal processor, 106, expects, signal processor, 106, can respond in a predetermined fashion and generate...	Page 301 lines 4-31.	
Column 14 lines 21-22.	...and record in digital recorder, 16 (referring to Fig. 1),...	Page 31 line 30 to page 32 line 2.	Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a

1981 Spec. Reference:	1981 Language	1987 Spec. Reference	1987 Language
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Column 14 lines 22-25.	... information that reports this fact in a predetermined fashion and/or transfer this information immediately to a remote site by telephone means and/or ...	Page 301 lines 4-25.	predetermined fashion or fashions; and transmits said signal records to a digital recorder, 16, and/or to one or more remote sites. ... , then to ... , to cause the auto dialer, 24, and telephone connection, 22, of said station to establish telephone communications with a particular predetermined remote station, in the fashion described above, and causes controller, 20, then to transmit the aforementioned appearance-of-tampering information together with complete information of the unique digital code that identifies said station uniquely. ... And for example, determining that a local station is not preprogrammed properly and/or that decryption ... apparatus are not functioning correctly may cause apparatus of said station to perform other steps of disabling and/or communicating--eg., the local apparatus may disable local apparatus selectively and only partially by, for example, preventing a decoder, ...
Column 14 lines 25-27.	generate and transmit to decryptor/interruptor, 107, instructions that disable decryptor/interruptor, 107.	Page 311 line 33 to page 312 line 4.  Page 301 lines 4-31.	(Simultaneously other stations compare selected information of said check sequence to selected information of said 1st-stage-enable-WSW-program instructions. A ... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--not resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program- enabling-message (#7) to be erased from all memory of said station ... thereby disabling said apparatus.)
Column 14 lines 28-32.	FIG 4D shows that a multi-stage decryption/interruption process may be used in which transmissions must be processed by one or more additional decryptor/interruptors, 111, that follow decryptor/interruptor, 110.	Page 299 lines 13-27.	Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby

# **Specification Correlation Chart**

			<p>causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, and to transfer decrypted information of said video portion to matrix switch, 258.</p> <p>Executing said 2nd-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, ... to affect a second and last stage of decrypting the digital video information of the "Wall Street Week" program transmission. ... Automatically, controller, 20, causes matrix switch, 258, ... to commence transferring the information inputted from decryptor, 224, to the output that outputs ... to decryptor, 231; ...</p> <p>... indicating that decryptors, 224 and 231, are decrypting received information correctly.</p>
Page 305 lines 9-31.			<p>At switch, 1, and mixers, 2 and 3, signal processor, 26, monitors all frequencies or channels available for reception at the subscriber station of Fig. 2 to identify available programming. The inputted information is the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.</p>
Page 308 lines 19-20.			<p>As Fig. 4 shows, signal processor, 200, controls all the aforementioned apparatus. Signal processor, 200, controls ... decryptors, 107, 224 and 230; ...</p>
Page 29 lines 8-15.			<p>Automatically, controller, 20, ... causes decryptor, 224, to commence decrypting any received information, ... and outputting decrypted information to matrix switch, 258.</p> <p>Automatically, controller, 20, causes matrix switch, 258, to transfer ... the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, and to transfer decrypted information of said video portion to matrix switch, 258.</p>
Page 287 lines 22-29.			<p>Executing said 2nd-stage-enable-WSW-program instructions causes controller, 20, ... to commence</p>
Page 299 lines 13-27.			
Page 305 lines 9-32.			

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			transferring the information inputted from decryptor, 224, to the output that outputs to signal stripper, 229; to commence transferring the information inputted from signal stripper, 229, to the output that outputs to signal generator, 230; to commence transferring the information inputted from signal generator, 230, to the output that outputs to decryptor, 231; and to commence transferring the information inputted from decryptor, 231, to ....  At switch, 1, and mixers, 2 and 3, signal processor, 26, monitors all frequencies or channels available for reception at the subscriber station of Fig. 2 to identify available programming.
Page 29, lines 8-11			...said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions ... on the frequency of said master control channel. (Hereinafter said message is called the "local- cable-enabling-message (#7).") In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message,...
Page 291 lines 10-24.			... said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ...
Page 289 lines 25-27.			...to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system...
Page 290 lines 27-29.			Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, ...
Page 294 lines 28-35.			
Page 15 lines 7-31.			In the present invention, particular signal processing apparatus (hereinafter called the "signal processor") detect signals and, ... The scanners/switches, working in parallel or series or combinations, transfer the transmissions to
Column 14 lines 37-39.	FIG 4E illustrates how signals transmitted on one channel can govern the decryption and/or transfer of another channel.		
Column 14 lines 39-41.	Signal processor, 112, receives, evaluates, and processes a multiple channel transmission from cable transmission facility, 113.		

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
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### Specification Correlation Chart

			receiver/decoder/detectors that <b>identify</b> signals encoded in programming transmissions and convert the encoded signals to digital information; <b>decryptors</b> that may ... and one or more processor/monitors and/or buffer/comparators that organize and transfer the information stream. The processors and buffers can have inputs from each of the receiver/detector lines and <b>evaluate</b> information continuously. From the processors and buffers, the signals may be <b>transferred</b> to external equipment such as computers, ...
		289 lines 12-15.	In example #7, the intermediate station that retransmits "Wall Street Week" program information to the subscriber station of Fig. 4 is a cable television system head end (such as the head end of Fig. 6). ...converter box, 201, ...
Column 14 lines 42-43.	Cable converter box, <b>114</b> , of which many types are now available,...	Page 295 line 8.	
Column 14 lines 43-44.	... with means for informing signal processor, <b>112</b> , which channel of programming it is transferring,...	Page 295 line 6 to page 296 line 7.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information;... thereby causing signal processor, 200, to receive said information ....
Column 14 lines 45-46.	... receives the same multi-channel transmission and transfers one channel to decryptor/interruptor, <b>115</b> .	Page 295 lines 6-29.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information at said frequency to matrix switch, 258. ... Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from said box, 201, to the output that outputs to television tuner, 215, and causes said tuner, 215, to tune to said selected frequency, thereby causing said tuner, 215, to receive the information of cable channel 13 and output the audio and video portions of said information to matrix switch, 258, on the separate audio and video outputs of said tuner, 215. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion inputted from said tuner, 215, to the

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			output that outputs to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion....
Column 14 lines 46-49.	The signal or signals necessary for the decryption of the channel that box, 114, passes to decryptor/interruptor, 115,...	Page 299 lines 13-25.	Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information,....
Column 14 lines 49-50.	...in this case, is not located in the channel transmission.	Page 298 line 34 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.
Column 14 lines 50-51.	They may be preprogrammed into the signal processor (for example,...	Page 299 lines 13-17.  Page 298 line 33 to page 299 line 1.	Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B,....  At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.
Column 14 lines 51-52.	...in programmable random access memory controller, 20, in Fig. 1)...	Page 293 line 20.	...such as, for example, the RAM of controller, 20,....
Column 14 lines 52-54.	...or they may be transmitted in a channel other than the channel being transferred from box, 114.	Page 291 lines 10-20.	...said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of ... enable-CC13 instructions and ... enable-WSW instructions that include particular enable-WSW-programming information, ... on the frequency of said master control channel. (Hereinafter said message is called the "local- cable-enabling-message (#7).") ...
		Page 289 lines 25-27.	... said "Wall Street Week" program when transmission of said program on cable cable 13 commences. ...

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		Page 290 lines 28-29.	...particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system....
		Page 294 lines 28-35.	Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,....
Column 14 lines 54-55.	If signal processor, 112, has been preprogrammed with the signal or signals...	Page 298 line 33 to page 299 line 1.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key Ba.
Column 14 lines 55-58.	...or if it has been informed of the predetermined fashion for identifying and processing the the needed signal or signals in the incoming transmission from facility, 113,...	Page 289 line 22 to page 290 line 10.	In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable 13 commences. ... Receiving any given instance of please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to select particular WSW-on-CC13-at-particular-8:30 information in said received information, record said selected information at particular memory, and execute particular receive-authorizing-info-at-appointed-time instructions. ... In a predetermined fashion, executing said instructions causes controller, 20,....
Column 14 lines 58-59.	...for example, where to look for the signals...	Page 290 lines 11-12.	... causes the oscillator, 6, then to cause switch, 1, and mixer, 3, to select information of a particular master cable control channel (that may or may not be cable channel 13) from the multi-channel cable system transmission inputted to signal processor, 200,....
		Page 290 lines 26-30.	Executing said 1st-stage-enable-WSW-program instructions causes controller, 20,....
		OR Page 298 lines 17-18.	At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is decryption cipher key
		Page 298 line 34 to page 299 line 1.	



**Specification Correlation Chart**

Column 14 line 59.	...and when...	Page 290 lines 11-17.  OR  Page 297 lines 20-21.	Ba. ...  In a predetermined fashion, executing said instructions causes controller, 20, causes prepare to receive a particular enabling SPAM message at a particular time. Automatically, controller, 20, checks the time of the clock, 18, of signal processor, 200, periodically. At a particular commence-enabling time that is a predetermined interval prior to the aforementioned 8:30 PM time....  Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, ....
Column 14 line 59.	...and how,...	Page 290 lines 11-12, lines 21-26.  Page 291 lines 21-28.	In a predetermined fashion, executing said instructions causes controller, 20,....  ....transmits particular preprogrammed enable-next-program-on-CC13 information to the control processor, 39J, of said decoder, 30, and causes said control processor, 39J, to place one instance of said information at a particular controlled-function-invoking information location; causes the oscillator, 6,....  In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. ....
Column 14 lines 59-61.	...signal processor, 112, can transfer the signal to decryptor/interruptor, 115.	Page 295 line 30 to page 296 line 1.  Page 299 lines 13-18.	Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion....  Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted

**Specification Correlation Chart**

Column 14 line 61 to column 15 line 1.	The tuner, 119, informs signal processor, 112, what channel box, 114, is switched to whenever it is switched or turned on. Signal processor, 112, receives this information probably at buffer/comparator, 8 (referring to Fig. 1), which signal processor, 112, processes the signal from tuner, 119, in a predetermined fashion that causes the signal or signals that relate to the necessary proper operation of decryptor/interruptor, 115.	Page 295 line 6 to page 296 line 7.	information to matrix switch, 258. ... Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information;... thereby causing frequency processor, 200, to receive said information ....
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**XV. COLUMN 15**

Column 15 lines 1-4.	If signal processor, 112, can identify, processes, and transfer the needed signal or signals, decryptor/interruptor, 115, can decrypt and/or transfer the incoming transmission from box, 114, satisfactorily.	Page 291 lines 21-32.	In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at decoder, 30, (to which said master control channel is inputted), to detect the information of said message, select the information of the execution segment in said message, and determine that said selected information matches the aforementioned instance of enable-next-program-on-CC13 information at said particular controlled-function-invoking information location. So determining a match causes the control processor, 391, to execute particular preprogrammed transfer-this-message-to-controller-20 instructions that are associated with the instance of information at said particular location.  Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,....
Column 15 lines 4-7.	If signal processor, 112, cannot transfer the needed signal or signals, decryptor/interruptor, 115, cannot decrypt and/or transfer the programming transmission satisfactorily.	Page 301 lines 6-10.	At each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with....
Column 15 lines 8-9.	FIG 4E also illustrates how it may be necessary to decrypt a programming transmission on one channel...	Page 294 lines 30-35.	Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to

**Specification Correlation Chart**

			<p>receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission,....</p> <p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information at said frequency to matrix switch, 258. ... Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion ... to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio).</p>
Column 15 lines 9-11.	...in order to identify and process correctly the programming transmitted on another.	<p>Page 300 lines 10-12,</p> <p>Page 300 line 30 to page 301 line 3.</p> <p>Page 299 lines 19-23.</p>	<p>In due course, but still before said 8:30 PM time, said program originating studio embeds in the video portion and transmits particular SPAM check information....</p> <p>Receiving said check-data-loaded signal causes controller, 20, under control of said 1st-stage-enable-WSW-program instructions, to cause the control processor, 391, of decoder, 30, to transfer to controller, 20, selected information of said check sequence of binary information and compare said selected information to selected information of said 1st-stage-enable-WSW-program instructions. A match occurs at the station of Fig 4, indicating that decryptor, 224, is decrypting its received information correctly.</p> <p>...controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video ... to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video....</p>
Column 15 lines 11-12.	In Fig. 4E, the signal or signals needed to operate decryptor/interruptor, 115, correctly...	<p>Page 298 lines 17-21.</p> <p>Page 299 lines 13-18.</p>	<p>Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.</p> <p>Automatically, controller, 20, transfers said decryption</p>

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			cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258.
Column 15 lines 13-14.	...may be on a separate channel of programming that is, itself, encrypted in transmission.	Page 297 lines 20-29.	Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, said program originating studio embeds in the audio portion and transmits a particular SPAM message that consists of ... 1st-stage-enable-WSW-program instructions as the information segment information, and an .... (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).")
		Page 294 lines 33-35.	...to cause selected apparatus to decrypt the audio portion of said transmission, ....
Column 15 lines 14-15.	Signal processor, 112, can transfer the correct signal or signals...	Page 297 line 28 to page 298 line 9.	(Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).") In the fashions described above, so transmitting said SPAM message causes signal processor, 200, ... to execute the aforementioned transfer-this- message-to-controller-20 instructions. Executing said instructions causes said control processor, 39J, to transfer the information of said message to controller, 20, in the fashion of the local-cable- enabling-message (#7).
Column 15 lines 15-16.	...only if cable converter box, 117, is tuned to the proper channel and ...	Page 295 lines 6-30.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its received information of said frequency (which information is received by means of its multi-channel cable system transmission input) to a selected output frequency and transfer said information at said frequency to matrix switch, 258. ... Automatically, controller, 20, causes matrix switch, 258, to transfer the information of said audio portion ... to a selected decryptor, 107, thereby causing said decryptor, 107, to receive the information of said audio portion (said information being, as explained above, encrypted digital audio).
Column 15 lines 17-19	...decryptor/interruptor, 118, can transfer a correctly decrypted transmission to signal processor, 112, for processing.	Page 295 line 30 to page 296 line 6.	Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio

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Column 15 lines 20-22.	In any of the cases illustrated in FIGs 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion...		information, ... and outputting decrypted information of the audio portion ... to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information inputted from decryptor, 107, to the output that that outputs to signal processor, 200, .... And for example, determining that a local station is not preprogrammed properly and/or that decryption, ... apparatus are not functioning correctly may cause apparatus of said station to perform other steps of disabling and/or communicating....  At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion....  ... each station where a match fails to occur--which indicates that a decryptor, 224, is not decrypting its received information correctly....  At each station where a ... a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly....  ... may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information.
Column 15 lines 22-25.	...and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programming transmissions.	Page 311 line 33 to page 312 line 2.  Page 293 lines 32-35.  Page 301 lines 6-9.  Page 308 line 35 to page 309 line 3.  Page 312 lines 6-8.	<b>Monitoring Receiver Station Reception and Operation</b>
Column 15 line 26.	<b>Methods for Monitoring Reception and Operation</b>	See generally page 162 line 27 to page 193 line 10, and page 312, line 32 to page 324 line 5. Page 28 lines 25-29.	
Column 15 lines 27-30.	FIG 5 illustrates methods for monitoring reception and operation which methods can be used to gather statistics on programming usage and associated uses of other data transmissions and equipment.	Page 312 line 33 to page 313 line 8.	[Signal processor 200 in Fig. 7 and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage.  Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and modes of receiver station operation ... The means and methods facilitate the collection of statistics that identify not only what programming is received and displayed at given subscriber stations but also, for example, which local

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Column 15 lines 30-32.	Such statistics are necessary, for example, in the development of television program ratings.	Page 28 lines 29-35.  Page 162 lines 31-34.	apparatus receives programming and which displays programming, how received programming is processed, what local apparatus is controlled in the course of processing ... [Signal processor 200 in Fig. 7 and elsewhere] has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.  ... signal processing apparatus and methods are used to collect monitor information for so-called "program ratings" (such as so-called "Nielsen ratings") that estimate the sizes of television (or radio) program audiences.
Column 15 lines 33-39.	FIG 5 shows two conventional TV sets, 132 and 144, a conventional video cassette recorder, 135, a conventional videodisc player, 137, a conventional radio, 141, a conventional microcomputer, 142, a conventional data printer, 146, and a television set, 148, that is capable of displaying two different television programming transmissions at once.	Page 313 line 16 to page 314 line 16.	Fig. 5 shows a variety of input apparatus with capacity for inputting programming (including SPAM information) selectively, via matrix switch, 258, to apparatus of the subscriber station of Fig. 5, intermediate apparatus with capacity for processing and/or recording inputted programming selectively, and output apparatus for displaying or otherwise outputting programming selectively to human senses. Input apparatus include ... Laser disc player, 232, ... videodisc player") ... Intermediate apparatus include microcomputer, 205, radio tuner & amplifier, 213, TV tuner, 215, audio recorder/player, 255, and video recorder/player, 217, all of which are well known in the art ... Output apparatus that display or otherwise output programming selectively to human senses include, for example, TV monitor, 202M, multi-picture television monitor, 148, speaker system, 263, and printer, 221,....
Column 15 lines 39-41.	This is only a representative group of equipment. Many other types of television and radio players and recorders could be included in FIG 5.	Page 314 lines 17-19.	(This is only a representative group of equipment; many other types of communications and computer apparatus could be included in Fig. 5.)
Column 15 lines 42-43.	Except for the videodisc player which neither records nor displays programming or other data....	Page 313 lines 24-30.	Input apparatus include ... Laser disc player, 232, ... videodisc player") ...
Column 15 lines 43-44.	... each unit has an appropriate associated signal decoder.	Page 314 lines 20-21.	Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders.
Column 15 lines 44-46.	Each decoder is likely to be located physically inside its associated player/ recorder unit.	Page 314 lines 31-33.	At other output system, 261, is other decoder, 286. Each decoder is likely to be located physically inside the unit of its associated intermediate or output apparatus.
Column 15 lines 46-49.	Each is located at a point in the associated unit's circuitry where it receives every embedded signal on the programming	Page 315 lines 14-19.	In the preferred embodiment, each one of said decoders is located at a point in the circuitry of its associated apparatus

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	channel or data channel to which the unit is tuned...			where said one receives (so as to detect all SPAM information on) the information of the selected frequency, channel or transmission to which its associated apparatus is tuned.
Column 15 lines 49-51.	...for which signal the decoder is programmed in a predetermined fashion to search.	Page 315 lines 20-24.		Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
Column 15 lines 52-56.	If a unit like the microcomputer can receive transmissions from more than one source or of more than one kind--television, radio, or other--it will have sufficient apparatus to monitor every channel and kind of transmission it can receive.	Page 317 lines 2-6.		If a given intermediate or output apparatus can receive transmissions from more than one source or of more than one kind--television, radio, or other--it will have sufficient apparatus to monitor every channel and kind of transmission it can receive.
Column 15 line 57.	The signals for which the decoders are monitoring...	Page 315 lines 20-24.		Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
		Page 44 lines 26-32.		Commands often contain meter-monitor segments. Said segments contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described more fully below.
Column 15 lines 58-60.	...are likely to be unique digital codes that may identify each programming or data unit received and the source of each.	Page 49 lines 26-28.		Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:
Column 15 lines 60-62.	They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission.	Page 50 lines 14-20.		...unique codes for programming; ... and unique codes that identify the sources and suppliers of computer data.
		Page 49 lines 26-28.		Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:
		Page 50 lines 1-4.		...origins of transmissions (e.g., network source stations, broadcast stations, cable head end stations); dates and times....
Column 15 lines 62-63.	They may convey unique identifier codes for each program or commercial.	Page 49 lines 26-28.		Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:

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			information include:
Column 15 lines 63-65.	In the case of data transmitted to the micro- computer, they may be unique codes that identify the source and suppliers of the data.	Page 50 lines 6-7.	...unique identifier codes for each program unit (including commercials);.... Meter-monitor segments contain meter information and/or monitor information. Examples of categories of such information include:....
Column 15 lines 65-68.	In the case of data received at the printer, they may identify publications, articles, publishers, distributors, advertisements, etc.	Page 50 lines 19-20.	...unique codes that identify the sources and suppliers of computer data. ...and causes said AT&T news item to be printed at said printer, 221.
Column 15 line 68- Column 16 line 2.	The decoders, 131, 136, 138, 143, 145, 147, 149, and 150, may search for many types of codes, and the types described here provide only examples.	Page 425 lines 35 to page 426 line 1.  Page 421 lines 13-15.	...meter-monitor segment that contains the "program unit identification code" information of said AT&T news item and subject matter information of said binary information of "T" ,....
		Page 50 lines 23-26.	The categories listed here provide only examples. Other types of information can exist in meter information and/or in monitor information, as will become apparent in this full specification.

### XVI. COLUMN 16

Column 16 lines 3-4.	In FIG 5, each decoder receives every relevant signal received by its associated player or recorder unit.	Page 314 lines 34-35.  Page 315 lines 20-24.	At any given subscriber station, any given SPAM decoder may merely monitor the operation of its associated....  Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
Column 16 lines 5-10.	For example, TV set, 131, may receive programming from many sources including cable converter box, 133, video cassette recorder, 135, and videodisc player, 137. In every programming unit played on TV set, 132, TV decoder, 131, receives every signal for which it is instructed to search in a predetermined fashion and...	Page 313 lines 16-23.	Fig. 5 shows a variety of input apparatus with capacity for inputting programming (including SPAM information) selectively, via matrix switch, 258, to apparatus of the subscriber station of Fig. 5, intermediate apparatus with capacity for processing and/or recording inputted programming selectively, and output apparatus for displaying or otherwise outputting programming selectively to human senses.



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			Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders. ... At TV tuner, 215, is TV decoder, 282. ... At TV monitor, 202M, is TV decoder, 145.
Column 16 lines 10-11.	...transfers the signals to signal processor, 130,...	Page 314 lines 20-28.	Fig. 5 shows each decoder as having capacity for transferring monitor information to signal processor, 200, by bus communications means.
		Page 315 lines 6-8.	Each one of said decoders is preprogrammed to detect and transfer to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message in the transmission to which its associated apparatus is tuned.
Column 16 lines 11-13.	... which has means to identify the source decoder from which each signal that it receives comes.	Page 322 lines 33-35.	...monitor information (#3) except that the source mark information identifies decoder, 282, rather than decoder, 203.
		Page 174 lines 4-14.	Under control of said instructions, said match causes control processor, 39J, to cause matrix switch, 39I, to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, (while said switch is simultaneously transferring information from control processor, 39J, to the CPU of microcomputer, 205); to transfer to said buffer/comparator, 14, header information that identifies a transmission of monitor information then particular decoder-203 information that is the source mark of said decoder, 203,....
Column 16 lines 13-18.	On all programming recorded by video cassette recorder, 135, decoder, 136, receives every relevant signal and transfers such signals to signal processor 130. Radio signal decoder, 138, operates similarly for radio, 141. Other signal decoder, 143, for microcomputer 142.	Page 314 lines 20-26.	Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders. At radio tuner & amplifier, 138, are radio decoder, 138, and other decoder, 281.... At video recorder/player, 217, is TV decoder, 218. At microcomputer, 205, is TV decoder, 203.
Column 16 lines 18-21.	TV signal decoder, 145, for TV set, 144 (which may receive programming inputs and associated signals generated or transferred by microcomputer, 142).	Page 322 line 26 - Page 323 line 11.	The programming of said "Wall Street Week" program is received at tuner, 215, and displayed at monitor, 202M. Accordingly, transmitting said messages will also cause the decoder associated with tuner, 215-- decoder, 282--to detect, process, and transmit monitor information of said messages to onboard controller, 14A, that is identical to said 1st monitor information (#3) and 2nd monitor information (#3) except that the source mark information identifies decoder, 282, rather than decoder, 203. Likewise, unless the Fig. 1B information overlaid at microcomputer, 205, covers and obliterates the embedded information of said messages that is

**Specification Correlation Chart**

			inputted from divider, 4, to microcomputer, 205, and would otherwise be transmitted to monitor, 202M, in the combined programming outputted by microcomputer, 205, (which covering and obliterating does not occur in example #3), transmitting said messages will also cause the decoder, 145, to detect, process, and transmit monitor information of said messages to onboard controller, 14A, that is also identical to said 1st and 2nd monitor information (#3) except that the source mark information identifies decoder, 145.		
Column 16 lines 21-24.	Other signal decoder, 147, for printer 146. And TV signal decoders, 150 and 149, for each channel of programming received and displayed by multi-picture TV set, 148.		Page 314 lines 20-30.	Associated with each intermediate apparatus and output apparatus is one or more appropriate decoders. ... At multi-picture TV monitor, 148, are TV decoders, 149 and 150. ... At printer, 221, is other decoder, 227.	
Column 16 lines 25-32.	One particular advantage of these methods for monitoring programming is that, by locating the identifier signals in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded on video cassette recorders and on how people replay such recordings.		Page 319 lines 23-30.	One particular advantage of these methods for monitoring programming is that, by embedding the SPAM information in the audio and/or video and/or other parts of the programming that are conventionally recorded by, for example, conventional video cassette recorders, these methods provide techniques for gathering statistics on what is recorded, for example, on video and audio cassette recorders and on how people replay such recordings.	
Column 16 lines 32-35.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.		Page 319 lines 30-33.	For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City.	
Column 16 lines 35-39.	Recorder, 135, might receive the programming over Manhattan Cable TV channel 4 and record the programming from 7:00 PM to 7:30 PM on the evening of July 15, 1985.		Page 319 line 33 – Page 320 line 2.	Recorder, 217, might receive the programming over Manhattan Cable TV channel 4 and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985.	
Column 16 lines 39-41.	Each discrete bit of this information could be conveyed to recorder, 135, in a signal unit or units in the programming so received and recorded.		Page 320 lines 2-8.	Each discrete bit of this information could be transmitted to the subscriber station of Fig. 5 in meter-monitor information ... embedded in the transmitted programming. So embedding and transmitting said meter-monitor information would cause recorder, 217, to record said information.	
Column 16 lines 41-43.	Decoder, 136, would identify these signals and transfer them to signal processor, 130.		Page 320 lines 9-10.	... decoder, 218, would detect said information and transfer said information to signal processor, 200, ....	
Column 16 lines 43-45.	Subsequently, the person might play the recorded programming on TV set, 132, from 10:45 PM to 11:15 PM the same evening.		Page 320 lines 24-26.	Subsequently, the subscriber might play back the recorded programming and view said programming on TV monitor, 202M, from 10:45 PM to 11:15 PM the same evening.	
Column 16 lines 45-47.	This time, TV signal decoder, 31, identifies the embedded signals and transfers them to signal processor, 131.		Page 320 lines 27-31.	So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information and transfer said	

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			information, together with appropriate source mark information, to signal processor, 131....
Column 16 lines 47-49.	Prerecorded video cassettes and videodiscs could also contain unique embedded codes that would identify their usage...	Page 321 lines 1-5.	Prerecorded, commercially distributed video and audio tapes, videodiscs, so-called "compact discs" of audio, and so-called "CD ROM" discs of data can also contain unique codes, embedded in the prerecorded programming, that identify the use and usage of said programming.... ...this method enables any subscriber who records the transmission of said programming at a recorder/player, 217, to access the embedded information of said instructions automatically in this fashion whenever the recorded transmission of said programming is played back....
Column 16 lines 49-50.	...(and could also transfer instructions to other external equipment).	Page 476 lines 18-22.  Page 473 lines 14-17.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred....  Fig. 5 shows each decoder as having capacity for transferring monitor information to signal processor, 200, by bus communications means. Said information is received (and processed) at signal processor, 200, by the onboard controller, 14A, ....  (In circumstances where information collecting and processing functions are extensive--for example, when a given buffer/comparator, 14, must collect monitor information at a subscriber station with apparatus and/or communications flows that are extensive and complex--buffer/comparator, 14, may operate under control of a dedicated, so-called "on-board" controller, 14A, at buffer/comparator, 14, which is preprogrammed with appropriate control instructions and is controlled by controller, 20, similarly to the fashion in which controller, 12 is controlled by controller, 20.) ...that the source mark information identifies decoder, 282, rather than decoder, 203.
Column 16 lines 51-54.	Signal processor, 130, would probably receive these signals from decoders, 131, 136, 138, 143, 145, 147, 149, and 150) at its buffer/comparator unit, 14 (referring to FIG. 1),...	Page 315 lines 6-10.  Page 32 lines 24-33.	Under control of said instructions, said match causes control processor, 39J, ... to transfer to said buffer/comparator, 14, header information that identifies a transmission of monitor information then particular decoder-203 information that is the source mark of said decoder, 203,....
Column 16 lines 54-56.	...in a predetermined fashion that would permit signal processor, 130, to identify which decoder the individual signals come from...	Page 322 lines 33-35.  Page 174 lines 4-17.	

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		Page 178 lines 27-35.	Automatically, said instructions cause onboard controller, 14A, to compare the information at said source-mark-@14A memory, in a predetermined fashion, with particular pre-entered source-identification mark information that onboard controller, 14A, retains in memory associated with its pre-entered signal records of monitor information. A match results with that particular decoder-203 source mark information that is associated with the aforementioned record of the prior programming displayed at monitor, 202M. Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record that reflects the new "Wall Street Week" programming.
Column 16 lines 56-57.	...and, in a predetermined fashion, create a signal string...	Page 180 lines 1-3.	...creating a meter record that records the decryption....
Column 16 lines 57-58.	...by appending digital information to the received signal which information might...	Page 297 line 15. Page 180 lines 4-15.	Automatically, said instructions cause onboard controller, 14A, in a predetermined fashion, to delete ... except the source mark information associated with said record; to record information of said first named instance of "program unit identification code" information (which is the "program unit identification code" of said "Wall Street Week" program to a particular "program unit identification code" location at said record location; to select particular information located at said SPAM-input-signal-@14A register memory and record information at said record location; to select particular preprogrammed record....
Column 16 lines 59-61.	...identify the individual decoder, 131, 136, 138, 143, 145, 147, 149, or 150 and the time of receipt at signal processor, 130.	Page 181 lines 8-14.	In a predetermined fashion, onboard controller, 14A, also records in a particular monitor record field location at said record location a particular display unit identification code that identifies monitor, 202M, as the display apparatus of said new monitor record. In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field...
Column 16 lines 61-62.	To minimize the use of data recorder, 16, buffer/comparator, 14,...	Page 323 lines 24-26.	In the preferred embodiment, to minimize unnecessary duplication, prior to retaining monitor information in signal records, onboard controller, 14A, is preprogrammed to....
Column 16 lines 62-64.	...may evaluate signals in a predetermined fashion and discard some signals rather than passing them to the recorder, 16.	Page 180 lines 1-2. Page 180 lines 13-15.	Then said process-monitor-info instructions cause onboard controller, 14A, to initiate a new monitor record.... ...select particular information located at said SPAM-input-signal-@14A register memory and record information at said record location; to select particular preprogrammed record....

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### Specification Correlation Chart

Column 16 lines 64-66.	It may compare each signal from a given source such as decoder, 131, with other signals received earlier from the same source.	Page 180 lines 20-21. Page 178 lines 27-35.	...finally, to discard all unrecorded information of said 1st monitor information (#3).... Automatically, said instructions cause onboard controller, 14A, to compare the information at said source-mark-@14A memory, in a predetermined fashion, with particular pre-entered source-identification mark information that onboard controller, 14A, retains in memory associated with its pre-entered signal records of monitor information. A match results with that particular decoder-203 source mark information that is associated with the aforementioned record of the prior programming displayed at monitor, 202M. To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information....
Column 16 lines 66-67.	It may only count incoming duplicate signals...	Page 32 lines 9-12.	In a predetermined fashion, signal processor, 200, records date and time information received from clock, 18, in first and last particular time field locations....
Column 16 lines 67 to column 17 line 1.	...or it may append a time code to the end of the basic signal string formed around the first received signal ...	Page 181 lines 12-15.	

### XVII. COLUMN 17

Column 17 lines 1-4.	...and alter this time designation each time a new duplicate signal is identified so that the time code identifies the time of receipt of the last duplicate signal.	Page 191 lines 11-21.	...onboard controller, 14A, to locate the instance of "program unit identification code" information at said SPAM-input- signal-@14A register memory, in the fashion described above; to locate the instance of "program unit identification code" information in the aforementioned new monitor record; and to compare said first named instance to said second named instance. A match results. Under control of said process- monitor-info instructions, said match causes onboard controller, 14A, to record date and time information, received from clock, 18, at the aforementioned last particular time field of said new monitor record and, in a .... To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information ...
Column 17 lines 4-6.	Whatever method is used, the buffer/comparator, 14, may discard all duplicate signals received.	Page 32 lines 9-12.	Automatically, said process- monitor-info instructions cause onboard controller, 14A, in a predetermined fashion, to locate the instance of "program unit identification code" information in said record of the prior programming
Column 17 lines 6-9.	At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.	Page 179 lines 14-24.	

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<b>Specification Correlation Chart</b>			
			displayed at monitor, 202M, and to compare said first named instance of "program unit identification code" information to said second named instance. No match results. Not resulting in a match causes onboard controller, 14A, to cause signal processor, 200, to record said record of prior programming at recorder, 16.
Column 17 lines 10-12.	Signal divider, 139, illustrates another type of monitoring that signal processing apparatus and methods can facilitate.	Page 315 lines 25-28.	In Fig. 5, decoder, 203, which is part of the signal processor system of the station of Fig. 5, not only monitors the operation of its associated apparatus, microcomputer, 205, but also controls said apparatus,...
Column 17 lines 12-13.	Signal divider, 139, monitors the use of signals rather than the use of programming.	Page 315 lines 25-30.	In Fig. 5, decoder, 203, which is part of the signal processor system of the station of Fig. 5, not only monitors the operation of its associated apparatus, microcomputer, 205, but also controls said apparatus, in the fashions described above, in the execution of SPAM controlled functions.
Column 17 lines 13-16.	Every instruction or information signal transmitted from processor, 140, to microcomputer, 142, is also transmitted to signal processor, 130, ...	Page 315 line 30 to 316 line 6.	Decoder, 203, has means for detecting SPAM information in any programming transmission inputted to its associated apparatus, microcomputer, 205, and not only for detecting and transferring to said onboard controller, 14, via said bus means, the meter-monitor information of every unencrypted SPAM message of said transmissions but also for inputting selected detected information to microcomputer, 205, and for controlling microcomputer, 205, in selected fashions. (Fig. 5 also shows that decoder, 203, has capacity for inputting detected information to signal processor, 200, and for receiving from and transferring control information to signal processor, 200.)
Column 17 lines 16-17.	... to be handled, recorded, and transmitted to a remote site with all other monitor information.	Page 28 lines 25-35	[Signal processor ... 200 in Fig. 7 ... and elsewhere] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring said meter records automatically to one or more remote automated billing stations that account for programming and information consumption and bill subscribers and said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.

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Column 17 lines 17-21.	In a predetermined fashion, signal processor, 130, identifies and marks the source of signals as coming from a device, 139, monitoring signal usage rather than programming usage and viewership.	Page 322 lines 19-26.  Page 174 lines 4-23.	For example, in the case of the "Wall Street Week" program, transmitting the first and second SPAM messages of example #3 (which are not encrypted) will cause not only decoder, 203, to process the meter-monitor information of said messages and transmit the aforementioned 1st monitor information (#3) and 2nd monitor information (#3), via the monitor information bus means of Fig. 5, to onboard controller, 14A.  Under control of said instructions, said match causes control processor, 39J, ... to transfer to said buffer/comparator, 14, header information that identifies a transmission of monitor information then particular decoder-203 information that is the source mark of said decoder, 203, ... then all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information of the first to buffer/comparator, 14, is called, hereinafter, the "1st monitor information (#3).")
Column 17 lines 21-24.	In this fashion, besides facilitating data gathering on how programming is used, signal processing apparatus and methods also permit the evaluation of how equipment is used.	Page 312 lines 33-35.	Fig. 5 illustrates means and methods for monitoring receiver station reception and use of programming and modes of receiver station operation and exemplifies one embodiment...
Column 17 lines 28-33.	...control information connections between signal processor, 130, and the remote decoders which would permit signal decoder, 130, to alter the methods of operation of said remote decoders. Such control information connections are included in signal processing apparatus and methods.)	Page 318 lines 2-7.	By such bus means, onboard controller, 14A, can cause any on or all of said decoders to commence or cease processing and transmitting SPAM monitor information and can cause any one or all of said decoders to change the location or locations that are searched for SPAM information. Fig. 5 shows that, ...
Column 17 lines 34-36.	<b>Methods for Governing or Influencing the Operation of Equipment that is External to Conventional Television and Radio Sets by</b>	Page 390 line 13.	<b>Automating Ultimate Receiver Stations</b>
Column 17 lines 36-38.	<b>Passing Instruction and Information Signals that are Embedded in Television and Radio Programming Transmissions to Such External Equipment</b>	Page 390 line 13 to page 556 line 32.	<i>See generally.</i>
Column 17 lines 39-41.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programming transmissions,...	Page 15 lines 16-23.	The frequencies may convey television, radio, or other programming transmissions.... The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions and convert the encoded signals to digital information; ....

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Column 17 lines 42-43.	... identify and discriminate among one or more pieces of external equipment ...	Page 34 lines 24-26.	... identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus...
Column 17 line 43.	... to which such signals are addressed, ...	Page 44 lines 14-15.	A command is an instance of signal information that is addressed to particular subscriber station apparatus....
Column 17 line 44.	... and transfer such signals to such equipment as directed.	Page 95 lines 18-21.	Receiving the header and execution segment of said first message causes controller, 39, to determine that said message is addressed to ... and to transfer said message to ...
Column 17 lines 45-46.	This permits many valuable techniques for facilitating the operation of such external equipment.	Page 390 lines 26-29.	The signal processing apparatus outlined in Figs. 2, 2A., 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of ultimate receiver stations in varieties of ways.
Column 17 lines 47-49.	FIG 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site.	Page 390 lines 30-35.	Fig. 7 exemplifies one embodiment of an ultimate receiver station; is a subscriber station in the field distribution system, 93, of the intermediate transmission station of Fig. 6; and may be a home, an office, a theater, a hotel, or any other station where programming such as television or radio is displayed to persons.
Column 17 lines 49-53.	Consideration of FIGS. 6F and 6G is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.	Page 396 lines 8-10.	Features, benefits, and modes of operation of the station of Fig. 7 are demonstrated in the following individual examples.
Column 17 line 54.	<b>Governing the Home or Office Environment</b>	See generally page 396 line 30 to page 406 line 31. (Page 396 line 30 quoted herein.)	<b>Automating U. R. Stations ... Regulating Station Environment</b>
Column 17 lines 55-56.	FIG 6A illustrates a method for governing a home or office environment.	Page 396 lines 31-33.	Fig. 7A illustrates methods for regulating automatically the environment of subscriber stations such as homes and offices.
Column 17 lines 56-62.	One or more channels of television programming transmissions inputted to signal processor, 200, and cable converter box, 201, may contain signals intended for microcomputer, 205, which signals convey information on local weather conditions. Such signals might include current outside temperature and barometric readings. They might include forecast data.	Page 396 line 33 to page 397 line 4.	Particular SPAM regulating messages are embedded in one or more television program channels that are inputted to signal processor, 200, and cable converter box, 201. Said messages include weather bulletin messages that convey local weather information and instructions, including, for example, current outside temperature information, barometric readings, and forecast data.
Column 17 lines 62-64.	Signal processor, 200, is always operating and monitors all incoming channels.	Page 397 lines 17-20.	Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above;....
Column 17 lines 64-65.	It can convey such signals to microcomputer, 205, whenever it receives them.	Page 397 lines 22-26.	... and is preprogrammed at the controller, 39, of its decoder, 30, and at its controller, 12, to transfer to the decoder, 203, of the microcomputer, 205, of its station any detected SPAM message with an instance of particular URS-205 execution



1987 Spec Reference	1987 Language	1987 Spec Reference	1987 Language
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**Specification Correlation Chart**

			segment information...
Column 17 line 65 to Column 18 line 1.	TV signal decoder, 203, can also identify such signals but only in the one TV channel transferred by box, 201, to TV set, 202, and then only when TV set, 202, is on and operating.	Page 401 lines 19-23.	(TV signal decoder, 203, has capacity, itself, to detect said ...SPAM message but only when TV set, 202, is on and operating and when the frequency of said master channel is the one TV channel transferred by box, 201, to TV set, 202.

**XVIII. COLUMN 18**

Column 18 lines 1-2.	Decoder, 203, transfers all received signals to processor or monitor, 204, ...	Page 400 lines 3-4  Page 35 lines 11-15  Page 35 lines 24-27  Page 35 lines 28-31	Receiving said Weather-Bulletin-125 SPAM message causes decoder, 203, to ...  ... the overall video transmission and passes said information to a digital detector, 34, which acts to detect the digital signal information embedded in said information, using standard detection techniques well known in the art, and inputs detected signal information to controller, 39, which ...  ... said audio information that is of interest. The digital detector, 37, detects signal information embedded in said audio information and inputs detected signal information to controller, 39.  ... separately defined transmission to a digital detector, 38, which detects signal information embedded in any other information portion of said television channel signal and inputs detected signal information to controller, 39.
Column 18 lines 2-4	... which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.	Page 400 lines 6 - 18 See Fig. 3A regarding the composition of controller 39	Automatically, control processor, 39J, executes particular preprogrammed Weather-Bulletin controlled function instructions that cause said control processor, 39J, to locate the Weather-Bulletin-125 identification information of said message; to determine that said information does not match particular information at particular last-weather-bulletin-identification RAM associated with said control processor, 39J; to input the information of the information segment of said message to the CPU of microcomputer, 205; to retain information of said Weather-Bulletin-125 identification information at said last-weather-bulletin-identification RAM; and to cause said CPU to execute the information so inputted as a machine language job.
		Page 37 line 28 to page	Upon receiving any given instance of signal information,

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Column 18 lines 4-7.	Microcomputer, 205, uses such received signals, in a predetermined fashion, to govern the operation of furnace, 206, air conditioning system, 207, and window opening and closing means, 208.	38 line 8	controller, 39, 44, or 47, is preprogrammed to process said information automatically. Controller, 39, is preprogrammed ... to correct errors in retained received information by means of forward error correction techniques well known in the art; to convert, as may be required, the corrected information, by means of input protocol techniques well known in the art, into digital information that subscriber station apparatus can receive and process; ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. So executing said information causes microcomputer, 205, to reducing the power usage of said air conditioning system, 207, causes any open windows at said station to be closed. In this fashion, SPAM messages can control and regulate the operation of individual subscriber station controlled apparatus (the thermostat control of furnace, 206, for example, could be similarly controlled) ....
Column 18 line 8.	<b>Co-ordinating a Stereo Simulcast</b>	See generally page 406 line 33 to page 419 line 31. (Page 406 line 33 quoted herein.) Page 406 lines 19-22. Page 401 lines 14-17.	<b>Automating U. R. Stations ... Coordinating a Stereo Simulcast</b>
Column 18 lines 9-11.	FIG. 6B illustrates a method for automatic co-ordination of a multimedia presentation in one place, in this case a stereo simulcast.	Page 406 lines 34-35.	Fig. 7B illustrates automatic control of one kind of combined medium presentation--a stereo simulcast.
Column 18 lines 11-13.	A person decides to watch a program on television that is stereo simulcast on a local radio station, too.	Page 407 lines 9-11.	At the station of Fig. 7 and 7B, a subscriber decides to watch a particular television program the audio of which is stereo simulcast on a local radio station, ....
Column 18 lines 13-14.	The person turns on television, 202, and tunes to the proper channel.	Page 407 lines 12-15.	Said subscriber switches power on to TV set, 202, and manually selects the proper channel, which is, for example, channel 13, at the television tuner, 215, of said set, 202, ....
Column 18 lines 14-17.	TV signal decoder, 203, detects signals in the programming transmission on the channel which signals it transfers to monitor or processor, 204.	Page 408 lines 18-29.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a particular Tune-Radio-to-FM-104.1 SPAM message that consists of a "01" header, an execution segment of particular activate-simulcast information that is addressed to URS radio decoders, 210, a meter-monitor segment that contains the "program unit identification code" information of said particular television program, appropriate padding bits, an information segment that contains particular 104.1-MHz information, and an end of file signal.

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Column 18 lines 17-19.	Monitor or processor, <b>204</b> , determines that certain signals are addressed to switch, <b>212</b> , and transfers these signals to switch, <b>212</b> .	Page 408 lines 31-34.  Page 95 lines 18-24.	Said message is detected at said decoder, <b>203</b> , and inputted to said controller, <b>39</b> , .... Receiving said message causes said controller, <b>39</b> , to execute particular preprogrammed controlled function instructions that cause said controller, <b>39</b> , to transfer said message to the radio decoder, <b>210</b> , of radio, <b>209</b> .  Receiving the header and execution segment of said first message causes controller, <b>39</b> , to determine that said message is addressed to ... , and to transfer said message to ... . So transferring said message is the controlled function that the information said header and execution segment cause controller, <b>39</b> , to perform.  Receiving said SPAM message causes said controller, <b>44</b> , switch power on to ... radio, <b>209</b> ,....
Column 18 lines 19-22.	These signals instruct switch, <b>212</b> , to turn power on to radio, <b>209</b> , and its associated equipment, including a conventional digital tuner, <b>213</b> .	Page 410 lines 10-11.	Receiving said message causes said controller, <b>39</b> , to execute particular preprogrammed controlled function instructions that cause said controller, <b>39</b> , to transfer said message to the radio decoder, <b>210</b> , of radio, <b>209</b> .
Column 18 lines 22-24.	Monitor or processor, <b>204</b> , also identifies signals addressed to tuner, <b>213</b> , which it transfers accordingly.	Page 408 lines 31-34.  Page 95 lines 18-24.	Receiving the header and execution segment of said first message causes controller, <b>39</b> , to determine that said message is addressed to ... , and to transfer said message to ... . So transferring said message is the controlled function that the information said header and execution segment cause controller, <b>39</b> , to perform.  Receiving said SPAM message causes said controller, <b>44</b> , ... to ... tune radio, <b>209</b> , to the frequency,.... Thus switching power on to TV set, <b>202</b> , and selecting channel <b>13</b> at television tuner, <b>215</b> , are the only manual steps necessary to actuate the radio simulcast of said channel at radio, <b>209</b> .
Column 18 lines 24-25.	These signals instruct tuner, <b>213</b> , to tune radio, <b>209</b> , to the proper frequency for the simulcast.	Page 410 lines 10-11.	In addition, because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, ...
Column 18 lines 26-28.	Automatically, by turning TV set, <b>202</b> , to the channel with a stereo simulcast, the person has activated the stereo simulcast.	Page 411 lines 6-9.	... monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.
Column 18 lines 29-30.	FIG. 6B also shows signal processor, <b>200</b> , monitoring for a data gathering and ratings service.	Page 411 lines 10-11  Page 88 lines 19-22.	Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that
Column 18 lines 30-35.	TV signal decoder, <b>203</b> , and radio signal decoder, <b>211</b> , also identify certain signals that monitors or processors, <b>204</b> and	Page 408 lines 18-29	

**Specification Correlation Chart**

	<p><b>210</b> respectively, determine to identify the programs, etc. on the channels to which TV set, <b>202</b>, and radio, <b>209</b>, are tuned,</p>	<p>Page 414 lines 13-27</p> <p>Page 15 lines 16-22</p> <p>Page 411 lines 10-15</p> <p>Page 418 line 23 to page 419 line 15.</p>	<p>consists of ... a meter-monitor segment that contains the "program unit identification code" information of said particular television program, ...</p> <p>Said message is detected at said decoder, <b>203</b>, and inputted to said controller, <b>39</b>, in the above described fashion.</p> <p>Periodically thereafter, said program originating studio embeds in said transmission and transmits a ... message that consists of ... a meter-monitor segment that contains secondary "program unit identification code" information of the audio program unit of said radio transmission ...</p> <p>Said message is detected at said decoder, <b>210</b>, and inputted to said controller, <b>44</b>.</p> <p>The frequencies may convey television, radio, or other programming transmissions. The input transmissions may be received by means of antennas or from hard-wire connections. The scanners/switches, working in parallel or series or combinations, transfer the transmissions to receiver/decoder/detectors that identify signals encoded in programming transmissions ...</p> <p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, <b>14A</b>, of said signal processor, <b>200</b>, in the fashion of example #3 above.</p> <p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, <b>14A</b>, of signal processor, <b>200</b>, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p>
<p>Column 18 lines 35-36.</p>	<p>The processors, <b>204</b> and <b>210</b>, transfer this information to signal processor, <b>200</b>, ...</p>	<p>Page 411 lines 10-15.</p>	<p>... because the station of Fig. 7 (and Fig. 7B) is preprogrammed to collect monitor information, receiving said ... message also causes the transmission of monitor information to the onboard controller, <b>14A</b>, of said signal processor, <b>200</b>, in the fashion of example #3 above.</p>

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		Page 418 line 23 to page 419 line 31	<p>Because the information of said ... message is transmitted periodically in said radio programming transmission, a subsequent instance of said information ... causes the SPAM decoder apparatus ... to transfer to the onboard controller, 14A, of signal processor, 200, ... a particular third transmission of monitor information containing ... "program unit identification code" information of the audio program unit of said radio transmission.</p> <p>Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.</p> <p>Controller, 39, 44, or 47, has capacity for identifying more than one apparatus to which any given signal should be transferred and for transferring said signal to all said apparatus.</p> <p>The station of Fig. 3 is preprogrammed to collect monitor information, ... Under control of said instructions, said match causes control processor, 39J, ... to commence transferring information from control processor, 39J, to buffer/comparator, 14, of signal processor, 200, ... to transfer to said buffer/comparator, 14, ... all of the received binary information of said first message that is recorded at said SPAM-input-signal memory; ... (Said received information is complete information of the first combining synch command, and said information transmitted to buffer/comparator, 14, is called, hereinafter, the "I<sup>st</sup>" monitor information (#3).")</p>
Column 18 lines 36-37.	...for recording and subsequent transmission to a remote data collection site.	Page 411 line 28 to page 412 line 2.	<p>In the fashion of example #3 above, receiving said first transmission of monitor information causes said onboard controller, 14A, to cause a signal record of prior programming of TV set, 202, to be recorded at the recorder, 16, of signal processor, 200, (and may cause records to be transferred to a remote location) and causes said onboard controller, 14A, to initiate a first signal record, ... that is based on the "program unit identification code" information of said particular television program in</p>
		Page 419 lines 4-15.	<p>In the fashion described above, receiving said third transmission of monitor information ... causes said onboard controller, 14A, to initiate a third signal record, ... that is</p>

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			based on the aforementioned secondary "program unit identification code" information of the audio program unit of said radio transmission.
		Page 28 lines 25-35.	[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
Column 18 lines 38-41.	Simultaneously, processor, 200, is also monitoring sequentially all other broadcast transmissions in the locality to gather further data on programing availability to record and transmit to a remote site.	Page 28 lines 25-35.	[Signal processor 200 in Fig. 7] has capacity, at each station, for receiving monitor information that identifies what programming is available, what programming is used, and how said programming is used and capacity for assembling and retaining monitor records that document said availability and usage. It has capacity for transferring ... said monitor records automatically to one or more remote so-called "ratings" stations that collect statistical data on programming availability and usage.
Column 18 line 42.		Page 397 lines 17-20.	Each subscriber station signal processor, 200, operates continuously; scans all incoming channels sequentially at its switch, 1, and mixer, 3, as described in example #5 above; is preprogrammed at its controller, 20, to ...
	<b>Receiving Selected Information and/or Programing.</b>	See generally page 419 line 33 to page 447 line 23. (Page 419 line 33 quoted herein.)	<b>Automating U. R. Stations ... Receiving Selected Programming</b>
Column 18 lines 43-45.	Figure 6C illustrates methods for monitoring multiple programing channels and selecting programming and information in a predetermined fashion.	Page 419 line 34 to Page 420 line 2.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.
Column 18 lines 45-47.	In this example, microprocessor, 205, is programmed to hold a portfolio of stocks...	Page 420 lines 3-4.	The microprocessor, 205, of the station of Fig. 7 and 7C, is preprogrammed to hold records of a portfolio of stocks....
Column 18 lines 47-48.	...and to receive news about these particular stocks and about the industries they are in.	Page 420 lines 5-6.	...and to receive and process automatically news items about said stocks and about the industries of said stocks.
Column 18 lines 48-51.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to	Page 420 lines 21-29.	Two remote stations--remote news-service-A station and remote news-service-B station--transmit, from

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	converter boxes, 222 and 201, and to signal processor, 200.		geographically separate locations, two different broadcast print transmissions. The intermediate transmission station of Fig. 6 receives and retransmits information the transmissions of said remote stations on digital data channels A and B, respectively, that are inputted to converter boxes, 222 and 201, and to signal processor, 200.
Column 18 lines 52-55.	The news services preceed each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.	Page 420 line 32 to page 421 line 17.	Each remote station transmits each particular news item within the particular format of a Transmit-News-Item SPAM message, and receiving any given message in a Transmit-News-Item SPAM message ... In due course, said remote news-service-A station transmits a particular A&T news item in a particular Transmit-A&T-News-Item message that is in said Transmit- News-Item SPAM message format and that consists of ... the "program unit identification code" information of said A&T news item and subject matter information of said binary information of "T", appropriate padding bits, an information segment that contains said <b>A&amp;T news item</b> , and an end of file signal.
Column 18 lines 55-56.	In a predetermined fashion, microcomputer, 205, instructs...	Page 288 lines 13-20.	As Fig. 4 shows, ...in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.
Column 18 lines 56-58.	...signal processor, 200, to hold examples of the sought for unique signals in its buffer/ comparator, 8, and compare them with all incoming signals.	Page 420 lines 6-20.	The signal processor, 200, of said station is preprogrammed ... with particular news- items-of-interest information that includes identification information of the particular stocks in said portfolio.... One company whose stock is preprogrammed at said microprocessor, 205, is the American Telephone and Telegraph Company whose stock is identified by particular binary information of "T". And among the news-items-of-interest information at said RAM is an instance of said binary information of "T".
		Page 422 lines 33 to Page 423 line 4.	...said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information....

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
<b>Specification Correlation Chart</b>			
Column 18 lines 58-59.	Signal processor, 200, scans sequentially all channels.	Page 422 lines 23-25.	At the station of Fig. 7 and 7C, signal processor, 200, scans sequentially all channels at its switch, 1, mixer, 3, and decoder, 30, in the fashion of example #5.
Column 18 lines 59-62.	When it identifies a signal of interest, it relays that information and the channel identifier, in this illustration, to microcomputer, 205.	Page 422 line 33 to Page 423 line 10.	...cause said controller, 39, to load the binary information of "T" ... of said message at particular working register memory and determine that the information at said memory matches the aforementioned binary information of "T" that is among the news-items-of-interest information ... Determining a match causes said controller, 39, to transmit said message, with channel mark information that identifies the particular channel in which said message was embedded, to said controller, 20, via control information transmission means and to continue functioning in the fashion of example #5.
Column 18 lines 62-65.	In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel,...	Page 423 lines 11-13.  Page 424 lines 2-9.	Receiving said message causes said controller, 20, to cause a selected cable converter box, 222, to receive the transmission identified by said channel mark; ....  Then receiving a particular to-223 instruction from said control processor, 20A, causes controller, 20, to transmits particular instructions, via said control information transmission link, to said tuner, 223, thereby causing said tuner, 223, to tune its associated cable converter box, 222, to the particular channel transmission of said multi-channel cable transmission that is identified by said channel mark.
Column 18 lines 65-67.	...and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing ....	Page 426 lines 10-18.	Then automatically, microcomputer, 205, transfers said data to said printer, 221. In so doing, microcomputer, 205, causes printer, 221, in a predetermined fashion, to print said AT&T news item. (Said preprogrammed instructions entered by the subscriber might cause said microcomputer, for example, then to establish a programming communication link with computer memory unit, 256, and to cause said unit, 256, to record said AT&T news item.)

#### XIX. COLUMN 19

Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to	Page 419 line 34 to page 420 line 2.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected
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1987 Language	1987 Spec Reference	1987 Language	1987 Spec Reference
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### Specification Correlation Chart

play or record.			programming and information.
			The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.
Column 19 lines 5-8.	In another example, microcomputer, 205 may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, 202, when it is cablecast.	Page 428 lines 21-26.	The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.
Column 19 lines 8-9.	Microcomputer, 205, is preinformed of the time of cablecasting.	Page 437 lines 1-3.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.
Column 19 lines 9-12.	When that time comes, microcomputer, 205, receives no program identification signals whatever from TV signal decoder, 203, which indicates that the set, 202, is not on.	Page 444 lines 33-34.	...decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by ....
Column 19 lines 12-13.	Microcomputer, 205, instructs signal processor, 200, to ...	Page 288 lines 13-20.	As Fig. 4 shows, ... in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.
		Page 445 lines 8-10.	... cause microcomputer, 205, to input particular preprogrammed instructions to said controller, 20, ...
Column 19 lines 14-15.	... pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C....
		Page 248 lines 22-26.	Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.
		Page 250 lines 13-16.	Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week"

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
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		Page 252 lines 15-35.	<p>program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then the meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>...microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p>
		Page 267 lines 20-28.	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>...microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p>
Column 19 lines 15-18.	Signal processor, 200, receives this instruction from microcomputer, 205, at its processor or monitor, 12, which reacts,...	Page 288 lines 16-20.	<p>...microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, ...</p>
Column 19 lines 18-20.	...in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/comparator, 14.	Page 435 lines 16-18.	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the</p>
		Page 267 lines 20-28.	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the</p>

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<p>1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p>	<p>Page 435 lines 16-25.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the</p> <p>1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>By contrast, the...</p>
<p>Column 19 lines 20-23.</p>	<p>Page 267 lines 20-28.</p>	<p>Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.</p>
<p>Page 435 lines 16-25.</p>	<p>Page 436 line 9 to page 437 line 3.</p>	<p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that</p>

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
<b>Specification Correlation Chart</b>			
			<p>contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted</i>. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p>
Column 19 lines 23-24.	Then, in a predetermined fashion, microcomputer, 205, may...	<p>Page 439 lines 14-15.</p> <p>Page 437 lines 1-6.</p>	<p>...to receive the transmission of cable channel 13;...</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;....</p>
Column 19 lines 24-25.	...instruct tuner, 214, to switch box, 201, to channel X...	<p>Page 439 lines 9-15.</p> <p>Page 295 lines 6-8.</p>	<p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;....</p>
Column 19 lines 25-27.	...and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	<p>Page 445 lines 24-27.</p> <p>Page 446 lines 18-23.</p>	<p>...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....</p> <p>...controller, 20, ... causes recorder/player, 217, to record</p>

1981 Spec. Reference	1981 Language	1987 Spec. Reference	1987 Language
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### Specification Correlation Chart

Column 19 lines 27-28.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 445 line 24 to page 446 line 1.	said information of the "Wall Street Week" program. ...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M.... ...and to tune monitor, 202M, in a predetermined fashion.
Column 19 lines 28-29.	and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 35 to page 446 line 1. Page 446 lines 17-21.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio....
Column 19 line 30.	<b>Co-ordinating Multimedia Presentations in Time</b>	See <i>generally</i> page 447 line 25 to page 457 line 10.	<b>Controlling Computer-based Combined Media Operations</b>
Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 18 lines 24-27.  page 450 line 27 to page 451 line 11.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.  (To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.

**Specification Correlation Chart**

Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	Each weekday after 4:30 PM, a remote stock-price-data-transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)
Column 19 lines 37-39.	It may receive these directly or it may automatically query a data service for them in a predetermined fashion.	Page 449 lines 26-35.	Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.
Column 19 lines 39-41.	It records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	Each weekday after 4:30 PM, a remote stock-price-data-transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. ...caused his microcomputer, 205, to be preprogrammed as described above;....
Column 19 lines 42-43.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to...	Page 450 lines 31-32. Page 21 lines 20-23.	Microcomputer, 205, is preprogrammed to ... respond ... to ...
Column 19 lines 43-44.	...instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.
Column 19 lines 45-46.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening,...	Page 451 lines 6-7.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening,....
Column 19 lines 46-48.	...several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said

**Specification Correlation Chart**

			<p>second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>	<p>Page 37 line 26 to page 38 line 8</p>	<p>second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.</p> <p>In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.</p>
Column 19 lines 48-53.	<p>These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202,...</p>		<p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p> <p>...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>	<p>Page 24 lines 5-16.</p> <p>Page 451 lines 7-11.</p>	<p>Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."</p> <p>...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.</p>
Column 19 line 53.	...upon command.		<p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>	<p>Page 26 lines 20-28.</p>	<p>(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)</p>
Column 19 line 53-56.	<p>Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.</p>		<p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio</p>	<p>Page 25 lines 26-33.</p>	<p>During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio</p>

1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
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Column 19 lines 56-59.	The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	Page 451 lines 25-32.	generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M. For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index. Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated at said program originating studio,.... ... embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ... In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 215, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. And the Fig. 1C combining is displayed.
Column 19 lines 59-60. Column 19 lines 60-62. Column 19 lines 62-63. Column 19 lines 63-64.	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated in the television studio originating the programing ... ... and is transmitted in the programing transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 25 lines 33-34. Page 25 line 34-36. Page 25 line 35 to page 26 line 1. Page 26 lines 1-2. Page 37 line 26 to page 38 line 8.	
Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	
Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.



1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
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# **Specification Correlation Chart**

## **XX. COLUMN 20**

Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programming of interest to play or record.	Page 419 line 34 to page 420 line 2.  Page 11 lines 5-10.	Fig. 7C illustrates methods for monitoring multiple programming channels, selecting programming and information of interest, and receiving said selected programming and information.  The present invention consists of an integrated system of methods and apparatus for communicating programming. The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.
Column 19 lines 5-8.	In another example, microcomputer, 205 may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, 202, when it is cablecast.	Page 428 lines 21-26.	The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.
Column 19 lines 8-9.	Microcomputer, 205, is preinformed of the time of cablecasting.	Page 437 lines 1-3.	Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20.
Column 19 lines 9-12.	When that time comes, microcomputer, 205, receives no program identification signals whatever from TV signal decoder, 203, which indicates that the set, 202, is not on.	Page 444 lines 33-34.	...decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by....
Column 19 lines 12-13.	Microcomputer, 205, instructs signal processor, 200, to...	Page 288 lines 13-20.  Page 445 lines 8-10.	As Fig. 4 shows, ...in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.  ... cause microcomputer, 205, to input particular preprogrammed instructions to said controller, 20, ...
Column 19 lines 14-15.	...pass all program and channel identifiers on all programming being cablecast on the multi-channel system.	Page 435 lines 16-18.  Page 248 lines 22-26.	In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C....  Via a conventional multi-channel cable transmission, in a fashion well known in the art, four channels of conventional television programming and two conventional FM radio signals are inputted to a first alternate contact of switch, 1, and to mixer, 2.

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		Page 250 lines 13-16.	<p>Example #5 begins with the embedding and transmitting, at the remote station that originates the "Wall Street Week" broadcast, of the first message of the "Wall Street Week" program ...</p> <p>Then, in a predetermined fashion, control processor, 39J, determines that said first command contains subject matter meter-monitor information causing said control processor, 39J, to transmit a message that consists of ... execution segment information that is addressed to microcomputer, 205, (and that causes microcomputer, 205, to process the information of the meter- monitor segment immediately following said execution segment information as new programming now being transmitted on the channel of the channel mark of said meter-monitor segment) then meter-monitor segment information that includes the "program unit identification code" and subject matter information of said first command and the channel mark of cable channel 13 ... (Said message whose transmission is caused by receiving said first command enables microcomputer, 205, in a fashion described more fully below, to tune automatically to receive the program that said "program unit identification code" identifies if said program is of interest, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) ...microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal</p>
		Page 252 lines 15-35.	
		Page 267 lines 20-28.	
Column 19 lines 15-18.	Signal processor, 200, receives this instruction from microcomputer, 205, at its processor or monitor, 12, which reacts,...	Page 288 lines 16-20.	
Column 19 lines 18-20.	...in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/	Page 435 lines 16-18.	

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	comparator, 14.		<p>processor, 200, ...</p> <p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p>
Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.	<p>Page 267 lines 20-28.</p> <p>Page 435 lines 16-25.</p>	<p>All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.)</p> <p>By contrast, the...</p> <p>In due course, while scanning sequentially all channels in the fashion of example #5, the apparatus of the signal processor, 200, of the station of Fig. 7 and 7C detects one instance of the Select-WSW-Program-Unit SPAM message of the station of Fig. 6 ...</p> <p>Receiving said Select-WSW-Program-Unit message causes the apparatus of said signal processor, 200, to input said message to the microcomputer, 205, of said station.</p> <p>Receiving said Select-WSW-Program-Unit message causes decoder, 203, ... to input ... the information segment</p>

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			<p>of said message to the CPU of microcomputer, 205, and to cause said CPU to execute the information so inputted as a machine language job. The information so inputted is the aforementioned determine-whether-to-select instructions that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information.</p> <p>Executing said determine-whether-to-select instructions causes microcomputer, 205, to... Said instructions contain one instance, and ... program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, <i>which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted</i>. Automatically, microcomputer, 205, compares said one instance to said program-unit-of-interest information and <b>determines a match</b> with said second instance.</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p>
Column 19 lines 23-24.		Page 439 lines 14-15. Page 437 lines 1-6.	<p>...to receive the transmission of cable channel 13;...</p> <p>Determining a match causes microcomputer, 205, automatically to input said please-fully-enable-WSW-on-CC13-at-particular- 8:30 information to the controller, 20.</p> <p>Receiving said please-fully-enable-WSW-on-CC13-at-particular-8:30 information causes controller, 20, in a predetermined fashion, to prepare particular apparatus ...</p> <p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;....</p>
	Then, in a predetermined fashion, microcomputer, 205, may...	Page 439 lines 9-15.	<p>Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13, thereby causing its associated converter box, 201, to convert its...</p>
Column 19 lines 24-25.		Page 295 lines 6-8. Page 439 lines 9-15.	<p>...to cause selected apparatus of said station--cable converter box, 201, ... to receive the transmission of cable channel 13;....</p>

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Column 19 lines 25-27.	...and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," ...	Page 445 lines 24-27.  Page 446 lines 18-23.	...instructions causes controller, 20, ...; to switch power on to video recorder/player, 217,....  ...controller, 20, ... causes recorder/player, 217, to record said information of the "Wall Street Week" program.  ...instructions causes controller, 20, to switch power on to monitor, 202M, ... Automatically, controller, 20, inputs a particular instruction to decoder, 145, via said communications link, that causes decoder, 145, to switch power on to monitor, 202M,....  ...and to tune monitor, 202M, in a predetermined fashion.
Column 19 lines 27-28.	...and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on	Page 445 line 24 to page 446 line 1.	In so doing, controller, 20, causes monitor, 202M, to receive the decrypted video and audio information of the "Wall Street Week" program, to display the video image of said information, and to emit sound in accordance with said audio,....
Column 19 lines 28-29.	and tuner, 215, to tune appropriately to "Wall Street Week."	Page 445 line 35 to page 446 line 1.  Page 446 lines 17-21.	<b>Controlling Computer-based Combined Media Operations</b>
Column 19 line 30.	<b>Co-ordinating Multimedia Presentations in Time</b>	See generally page 447 line 25 to page 457 line 10.	Fig. 7C is a block diagram of signal processing apparatus and methods selecting receivable information and programming and controlling combined medium, multi-channel presentations.
Column 19 lines 31-34.	FIG 6C can also illustrate how programming delivered at different times to one place can be co-ordinated to give a multimedia presentation at one time in one place.	Page 18 lines 24-27.  page 450 line 27 to page 451 line 11.	(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.) Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30

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			PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
Column 19 lines 35-37.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day.	Page 449 lines 13-26.	Each weekday after 4:30 PM, a remote stock-price-data transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. (Said remote station transmits said closing stock price data and causes specific subscriber stations to select and process their specific information of interest in the fashion in which remote news-service-A station transmitted the AT&T news item and caused selected stations to select and process, in their specific fashions, the information of said item.)
Column 19 lines 37-39.	It may receive these directly or it may automatically query a data service for them in a predetermined fashion.	Page 449 lines 26-35.	Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.
Column 19 lines 39-41.	It records those prices that relate to the stocks in its stored portfolio.	Page 449 lines 13-20.	Each weekday after 4:30 PM, a remote stock-price-data transmission station transmits all closing stock price data applicable that day and causes apparatus at each subscriber station, in a predetermined fashion, to select and record at the microcomputer, 205, of said station the particular closing price datum or data that apply to the particular stock or stocks of the preprogrammed portfolio of said computer. ...caused his microcomputer, 205, to be preprogrammed as described above;...
Column 19 lines 42-43.	Microcomputer, 205, is preprogrammed to respond in a predetermined fashion to...	Page 450 lines 31-32.  Page 21 lines 20-23.	Microcomputer, 205, is preprogrammed to ... respond ... to ...
Column 19 lines 43-44.	...instruction signals embedded in the "Wall Street Week" programming transmission.	Page 21 lines 23-24.	... instruction signals embedded in the "Wall Street Week" programming transmission.

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Column 19 lines 45-46.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening,...	Page 451 lines 6-7.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, ...
Column 19 lines 46-48.	...several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.	Page 23 line 35 to page 24 line 4.  Page 37 line 26 to page 38 line 8	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.  In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202,...	Page 24 lines 5-16.	Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set."
Column 19 line 53.	...upon command.	Page 451 lines 7-11.  Page 26 lines 20-28.	...the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.  (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
Column 19 line 53-56.	Subsequently in the program, the host says, "Here is what the	Page 25 lines 26-33.	During this time the program may show the so-called

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	Dow Jones Industrials did is the past week," and a studio generated graphic is pictured.		"talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M.
Column 19 lines 56-59.	The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.	Page 451 lines 25-32.	For example, the Fig. 1C display of user specific overall stock portfolio performance could be followed by second and third displays that analyze portions of the subscriber's portfolio—eg., the portion invested in New York Stock Exchange listed stocks in comparison to the so-called "NYSE" index and the portion invested in so-called "over-the-counter" stocks in comparison to the so-called "NASDAQ" index.
Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."	Page 25 lines 33-34.	Then the host says, "And here is what your portfolio did."
Column 19 lines 60-62.	At this point, an instruction signal is generated in the television studio originating the programming ...	Page 25 line 34-36.	At this point, an instruction signal is generated at said program originating studio,....
Column 19 lines 62-63	... and is transmitted in the programming transmission.	Page 25 line 35 to page 26 line 1.	... embedded in the programming transmission, and transmitted.
Column 19 lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.	Page 26 lines 1-2.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and ...
		Page 37 line 26 to page 38 line 8.	In each decoder, the controller, 39, 44, or 47, receives detected digital information from the relevant detector or detectors, 34, 37, 38, 43, and 46. Upon receiving any given instance of signal information, controller, 39, 44, or 47, is preprogrammed ... to identify in a predetermined fashion or fashions subscriber station apparatus to which said signal information should be transferred; and to transfer said signals to said apparatus.
Column 19 lines 64-66.	This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202,...	Page 26 lines 1-8.	Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M.
			And the Fig. 1C combining is displayed.
Column 19 lines 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.	Page 451 line 3. Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the



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			subscriber's own portfolio performance overlaid on the studio generated graphic.
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#### XXI. COLUMN 21

Column 21 lines 1-2.	Using Signaling and Decryption Techniques to Control Distribution of Copyrighted Materials	<p>See generally page 278 line 22 to page 312 line 30. Especially, page 312 lines 12-28.</p> <p>See generally page 427 line 8 to page 447 line 23.</p> <p>See generally page 533 line 23 to page 556 line 32. Especially, page 548 line 1 to page 549 lines 31.</p>	Regulating the Reception and Use of Programming
Column 21 lines 3-8.	FIG 6E illustrates a signaling and decryption technique which could serve to facilitate the electronic distribution of copyrighted materials such as books and movies by tending to discourage piracy and the unauthorized retransmission of copies, whether they be properly acquired or pirated.	<p>Generally, page 312 lines 12-20.</p> <p>Page 306 lines 20-25.</p>	<p>And for example, the transmitted programming may be only audio (for example, of a radio transmission) or print (for example, of broadcast print) rather than television. And for example, the output apparatus may be speakers or one or more printers rather than a television monitor. And for example, rather than being a transmitter at a remote wireless or cable transmission station, the source of the transmission may be a local apparatus such as a video (or audio or digital information) tape recorder or a laser disc player, ....</p> <p>(By causing information that identifies the station at which encrypted information is decrypted to be so inserted, the present invention makes it possible to identify particular stations where their information is misused--for example, if pirated decrypted copies of information are distributed, the station at which decryption occurred can be identified....</p>
Column 21 lines 9-19.	FIG 6E could be any home or commercial establishment but is described here as a book store. Using conventional laser videodisc equipment and techniques, well known in the art, a publisher has put his full line of books on laser discs in encrypted form and distributed one copy of each disc to each of his authorized book store retail outlets. He has also	<p>Page 534 lines 13-16.</p> <p>Page 548 lines 24-30.</p>	<p>...Each farmer's laser disc player, 232, is loaded with a so-call "optical disk" on which is recorded a file named "PROPRIET.MOD" that contains encrypted information of a proprietary software module.</p> <p>Automatically, under control of its specific received program</p>

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	distributed to each a conventional computer floppy disk for use on conventional microcomputer, 205, that can operate conventional laser videodisc system, 232, in a predetermined fashion to locate and transmit individual titles in his line.		instruction set, each microcomputer, 205, accesses the file, MY_FARM.DAT, that is prerecorded on the disk loaded at its A: disk drive and also accesses the encrypted "PROPRIET.MOD" file that is prerecorded at the laser disc player, 232, of each farmer's station....
Column 21 lines 20-24.	A customer comes into the book store and asks to buy a title, hypothetically, <i>How to Grow Grass</i> . The salesman asks the customer for suitable identification, types into micro-computer, 205, the customer's name and address and that he wishes to purchase <i>How to Grow Grass</i> .	Page 548 lines 1-4.	Receiving the particular first SPAM message of its local intermediate station causes apparatus of the subscriber station of each farmer to execute the contained program instruction set of said message at the microcomputer, 205,....
Column 21 lines 25-26.	Microcomputer, 205, may check to determine that the customer has no record as a pirate...	Page 549 line 19-21	Then, in the fashion of example #7, apparatus of each station are caused to decrypt and retain meter information of the decryption of the encrypted information of said file.
		Page 16 lines 24-26.	Flexibility must exist for varying techniques that restrict programming to duly authorized subscribers in order to identify and deter pirates....
		Page 293 lines 24-35.	A match indicates that said sixteen contiguous bit locations that hold preprogrammed SPAM operating information are preprogrammed with properly. A match occurs at the station of Fig 4. (Simultaneously other stations compare information of other selected information of bit locations that contain information of said enable-CC13 instructions with information of other local bit locations that hold preprogrammed SPAM operating information. At each station where a match fails to occur--which suggests that the preprogrammed SPAM operating information of said station has been tampered with in an unauthorized fashion--....
Column 21 lines 26-30.	...then transfers his name and address to buffer/comparator, 8 (referring to Fig. 1), of signal processor, 200, and instructs laser videodisc system, 232, to transmit its encrypted copy of <i>How to Grow Grass</i> to printer or other means, 221,...	Page 548 lines 25-30.	...each microcomputer, 205, accesses the file, MY_FARM.DAT, that is prerecorded on the disk loaded at its A: disk drive and also accesses the encrypted "PROPRIET.MOD" file that is prerecorded at the laser disc player, 232, of each farmer's station...
Column 21 lines 30-32.	...via decryptors, 224 and 231. Laser system, 232, transmits one copy of the encrypted title to decryptor, 224, ...	Page 549 line 19-21.	Then, in the fashion of example #7, apparatus of each station are caused to decrypt and retain meter information of the decryption of the encrypted information of said file.
		Page 299 lines 19-22.	Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to

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Column 21 lines 32-34	...and one to signal processor, 200, for processing and evaluation.	Page 297 lines 20-33.	<p>decryptor, 224, thereby causing said decryptor, 224,....</p> <p>Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, said program originating studio embeds in the audio portion and transmits a particular SPAM message that consists of a "01" header, execution segment information that matches said enable-WSW- programming information, particular meter-monitor information, particular</p> <p>1st-stage-enable-WSW-program instructions as the information segment information, and an end of file signal. (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).")</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at the digital detector, 38, of decoder, 30, to detect the information of said message and at the control processor, 39J,....</p> <p>In the fashions described above, so transmitting said SPAM message causes signal processor, 200, at the digital detector, 38, of decoder, 30, to detect the information of said message and at the control processor, 39J, to select the information of the execution segment in said message and determine that said selected information matches the aforementioned instance of enable-WSW-programming information at said particular controlled-function-invoking information location. So determining a match causes said control processor, 39J, to execute the aforementioned transfer-this- message-to-controller-20 instructions.</p> <p>Each farmer has a subscriber station that is identical to the station of Fig. 7 except that each station has two television recorder/players that are recorder/players, 217 and 217A; two television tuners, 215 and 215A; and a laser disk player, 232. Particular farm information of the specific farm of each farmer is recorded in a file named MY_FARM.DAT on a disk at the A: disk drive of the microcomputer, 205, of each station.</p>
Column 21 lines 35-36.	In the encrypted title, signal processor, 200, identifies one or more signal words.	Page 297 line 30 to page 298 line 5.	<p>Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load-and-run-@20 instructions, to load the</p> <p>1st-stage-enable-WSW- program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job.</p>
Column 21 lines 36-38.	If signal processor, 200, has the customer's name and address and the bookstore is a retail outlet in good standing...	Page 534 lines 1-8.	
Column 21 lines 38-40.	...that has received from a remote site program information on the predetermined fashions in affect,...	Page 298 lines 10-21.	

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			Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.
Column 21 lines 40-43.	...signal processor, 200, decrypts the signal word or words and transfers them to decryptor, 224, to serve as the code for the first stage of decryption.	Page 299 lines 13-22.	Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224....
Column 21 lines 44-45.	Decryptor, 224, then decrypts a part of the encrypted transmission...	Page 299 lines 22-27.	...thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, and to transfer decrypted information of said video portion to matrix switch, 258.
Column 21 lines 45-46.	...and passes the partly decrypted transmission to signal stripper, 229, and signal generator, 230.	Page 305 lines 22-32.	...to commence transferring the information inputted from said converter box, 201, to the output that outputs to television tuner, 215; to commence transferring the information inputted from decryptor, 224, to the output that outputs to signal stripper, 229; to commence transferring the information inputted from signal stripper, 229, to the output that outputs to signal generator, 230; to commence transferring the information inputted from signal generator, 230, to the output that outputs to decryptor, 231; and to commence transferring the information inputted from decryptor, 231....
Column 21 lines 46-51.	In the decrypted portion of the partially decrypted transmission, signal processor, 200, identifies a second signal word or set of words which it decrypts in a predetermined fashion and passes to decryptor, 231, to serve as the code basis for the second stage of decryption.	Page 304 lines 10-11.  Page 304 line 23 to page 307 line 8.	(Hereinafter, each of said SPAM messages is called a "2nd-WSW-program-enabling-message (#7).")  Automatically, decryptor, 39K, decrypts the encrypted information of said message and transfers said message to EOFS valve, 39H. Automatically, EOFS valve, 39H, inputs the information of said message, unencrypted, to control processor, 39J, until the end of file signal of said message is detected. Automatically, control processor, 39J, determines that the unencrypted information of the execution segment of said message matches the aforementioned instance of enable-WSW-programming information at said particular

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			<p>controlled-function-invoking information location and executes the aforementioned transfer-this-message-to-controller-20 instructions.</p> <p>Executing said instructions causes the transfer of the remove.) Automatically, controller, 20, selects information of the aforementioned first three of the last four significant digits of the binary information of the aforementioned unique digital code at ROM, 21 and computes a particular Q quantity according to a particular formula that is preprogrammed in said 2nd-stage-enable-WSW-program instructions. ... The information of said Q quantity is the decryption key Aa.</p>
Column 21 lines 51-53.	Signal processor, 200, also may instruct signal stripper, 229, to remove this second signal word or words.	Page 305 line 34 to page 306 line 4.	Automatically, controller, 20, causes signal stripper, 229, to strip information, in a fashion well known in the art, from a particular strip-designated portion of the video transmission received at said stripper, 229, and transfer the received video, without said stripped information, to matrix switch, 258.
Column 21 lines 53-63.	Signal processor, 200, also passes the customer's name and address and its own unique apparatus identifier code from read only memory, 21, to signal generator, 230, which generates a signal embedding the customer's name and address and the retail outlet's identification in the programming in a suitable place or places in a suitable fashion. (Signal processor, 200, may also transmit the customer's name and address to printer or other means, 221, for actual printing of the customer's name and address in the text.)	Page 306 lines 11-19.	Automatically, controller, 20, selects complete information of the aforementioned unique digital code at ROM, 21, transmits said complete information to signal generator, 230, and causes said generator, 230, to insert said complete information, in a predetermined periodic fashion and in an inserting fashion well known in the art, into a particular insertion-designated portion of the video transmission received at said generator, 230, and to transfer the received video, with said inserted information, to matrix switch, 258.
Column 21 lines 63-65.	The transmission then passes through decryptor, 231, which completes the decryption process...	Page 305 lines 29-31, and lines 14-16.	...to commence transferring the information inputted from signal generator, 230, to the output that outputs to decryptor, 231,...
Column 21 lines 65-66.	...and passes the decrypted programming transmission to printer or other means, 221,...	Page 309 line 27 to page 310 line 3.	...and to affect a second and last stage of decrypting the digital video information of the "Wall Street Week" program transmission.
			Determining that signal stripper, 229, and that signal generator, 230, are stripping and inserting correctly (after having determined that that decryptors, 224 and 231, are decrypting correctly) causes the controller, 20, of the station of Fig. 4 (and causes controllers, 20, at other stations where so determining occurs) to execute particular additional 2nd-stage-enable-WSW-program instructions, and executing said instructions causes controller, 20, to cause the apparatus of the station of Fig. 4 to commence transferring the

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### Specification Correlation Chart

			decrypted ... information ... to microcomputer, 205, ....
Column 21 lines 66-67.	...and also to signal processor, 200.	Page 312 lines 12-14.	And for example, the transmitted programming may be only audio (for example, of a radio transmission) or print (for example, of broadcast print) rather than television.
Column 21 line 67 to column 22 line 2.	Signal processor, 200, receives and analyzes the signal content of the programming output of decrypter, 231 to ensure that stripper, 229, and and generator, 230, have functioned properly.	Page 305 lines 31-34.	...and to commence transferring the information inputted from decryptor, 231, to the output that outputs to said third alternate contact of switch, 1.
		Page 308 lines 13-30.	Receiving said signal causes controller, 20, under control of said 2nd-stage-enable-WSW-program instructions, to cause said control processor, 39J, to transfer to controller, 20, selected information of said check sequence; to compare said selected information to selected information of said 2nd-stage-enable-WSW-program instructions; and to determine that a match results, indicating that decryptors, 224 and 231, are decrypting received information correctly. Determining a match causes controller, 20, to determine, in a predetermined fashion, that signal stripper, 229, is correctly stripping information from the aforementioned strip-designated portion of the video transmission and transferring received video with said inserted information.

### XXII. COLUMN 22

Column 22 lines 2-4.	If they have not, signal processor, 200, shuts down the decryption of the title and prevents its delivery to the customer.	Page 308 line 31 to page 309 line 11.	(Simultaneously other stations compare selected information of said check sequence to selected informations and of said 2nd-stage-enable-WSW-program instructions and verify the correct functioning of local signal strippers, 229, and generators, 230. At each station where a controller, 20, determines that a match does not result--which indicates that a decryptor, 224 or 231, is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--or determines that a stripper, 229, or a generator, 230, fails to function correctly, so determining match causes said controller, 20, to cause all information of
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1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
<b>Specification Correlation Chart</b>			
Column 22 line 5	<b>The General Case</b>		said 2nd-WSW-program-enabling-message (#7) to be erased from all memory of said station except for a particular portion of said 2nd-stage-enable-WSW-program instructions loaded at the RAM of said controller, 20,.... <b>A Summary Example #11 ... and the General Case</b>
Column 22 lines 6-15.	It is obvious to one of ordinary skill in the art that the foregoing is presented by way of example only and that the invention is not to be unduly restricted thereby since modifications may be made in the structure of the various parts without functionally departing from the spirit of the invention. FIG 6 should make this clear. The receiver site depicted in FIG 6 has multiple means for receiving programing transmissions. All received programing is analyzed and evaluated by signal processor, 200.	See generally page 533 line 23 to page 557 line 32. Page 556 line 33 to page 557 line 32.	It is obvious to one of ordinary skill in the art that the foregoing is presented by way of example only and that the invention is not to be unduly restricted thereby since modifications may be made in the structure of the various parts or in the methods of their functioning without functionally departing from the spirit of the invention. Any SPAM message and any other programming transmission can be caused, through encryption/decryption and other SPAM regulating techniques of the present invention, to take affect fully only selected stations and station apparatus. Because any tranmission station can invoke any SPAM controlled function by transmitting a SPAM message with meter-monitor segment information, invoking any given SPAM controlled function can also cause meter information and or monitor information to be processed in the fashions described above at apparatus and stations where said controlled function is invoked. Intermediate transmission stations can be equipped with SPAM regulating capacity such as that illustrated in Fig. 4, monitoring capacity such as that illustrated in Fig. 5, and control information switching and bus communications capacity such as that illustrated in Figs. 7 and 8. Controlling such capacity by means of transmitted SPAM messages, a remote network origination and control station can transmit programming to intermediate transmission stations, regulate and meter the use of said programming at said stations, monitor the use and usage of said programming at said stations, and control communication of control information at said stations all in the fashions that apply above to ultimate receiver stations. And any given transmission station can cause its receiver stations to function automatically not only in the fashions described above in the sections on automating ultimate receiver stations but in any appropriate fashion that a network origination and control station can cause intermediate transmission stations to function automatically.

1987 Spec Reference	1987 Language	1987 Spec Reference	1987 Language
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### Specification Correlation Chart

Column 22 lines 15-20.	Working with microcomputer, 205, which is preprogrammed to present received programming in predetermined fashions determined at the receiver site, signal processor, 200, permits and facilitates such presentations in accordance with the intentions of the suppliers of the programming at remote sites.	Page 428 line 21 to page 429 line 17.	<p>The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted. In a predetermined fashion, said subscriber has caused to be included in said program-unit-of-interest information. (Microcomputers, 205, of selected other stations of said large plurality of stations are also so preprogrammed.) The station-specific-television-program-selection-and-display instructions at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular information that said subscriber will pay up to a certain limit--for example, twenty-five cents--to be permitted to receive said program and that, if the TV set, 202, of said station is switched off when information of the transmission of said program is detected, power should be switched on to said TV set, 202, and said program should be displayed at the monitor, 202M, of said set and, in addition, power should be switched on to the video recorder/player, 217, of said station, and said program should be recorded at said recorder/player, 217.</p> <p>The signal processor, 200, of said station scans sequentially all received television transmission channels in the fashion described above and is preprogrammed at the RAM associated with the control processor, 39J, of its decoder, 30, to respond in a particular controlled function fashion whenever a SPAM message with an execution segment of particular available-television-program information is detected. Said signal processor, 200, has capacity for actuating and tuning TV set, 202, and video recorder, 217, and for controlling microcomputer, 205.</p>
Column 22 lines 20-24.	Working together, signal processor, 200, and microcomputer, 205, can control all local equipment and manage local presentations in any fashion feasible given the nature of the local equipment and the programming.	Page 444 line 31 to page 445 line 22.	<p>Automatically, controller, 20, transmits particular information to said decoder, 145, that causes said decoder, 145, to determine, in a predetermined fashion, that power is not on to monitor, 202M, and to respond by transmitting particular 202M-is-not-on information to controller, 20, via said link.</p> <p>The fact that monitor, 202M, is not on signifies that the subscriber of the station of Fig. 7 is not viewing television information at monitor, 202M, and suggests that said subscriber may not even be present at said station.</p>



1981 Spec Reference	1981 Language	1987 Spec Reference	1987 Language
	<b>Specification Correlation Chart</b>		
			<p>Receiving said 202M-is-not-on information causes controller, 20, under control of said additional 2nd-stage-enable-WSW-program instructions, to cause microcomputer, 205, to input particular preprogrammed instructions to said controller, 20, which instructions reflect the specific fashion in which said subscribe wants any given selected program to be selected and displayed. Automatically, controller, 20, inputs a particular choose-mode-of-selection-and-display instruction and said 202M-is-not-on information to microcomputer, 205, and receiving said instruction and said information causes microcomputer, 205, in a predetermined fashion, to process the aforementioned station-specific-television-program-selection-and-display instructions. Automatically, under control of said instructions, microcomputer, 205, inputs to controller, 20, particular preprogrammed display-at-202M-and-record-at-217 instructions.</p>

**APPENDIX D**

**GLOSSARY OF DEFINED TERMS  
TO THE 1987 PRIORITY INSTANT SPECIFICATION**

# GLOSSARY OF DEFINED TERMS

## 1987 Priority U.S. Patent Application

The following terms are defined and used in specific ways in U.S. Patent No. 4,965,825 and its continuations, including Applicants' instant specification. Terms that appear at the left margin in quotation marks are formally defined in the patent disclosures. The meanings of terms that are shown below without quotation marks are made clear in the context in which they appear.

### A

### B

"broadcast" ... page 12 line 22 ... to transmit programming over-the-air.

"broadcast print" ... page 1 line 25 ... Radio and electronic print services such as stock brokers' so-called "tickers" and "broad tapes" are ... powerful, user friendly mass media. (Hereinafter, the electronic print mass medium is called, "broadcast print.")

### C

cadence information ... page 60 line 12 ... Cadence information which consists of headers, certain length tokens, and signals that are called "end of file signals" enables subscriber station apparatus to distinguish each instance of header information in any given message stream and, hence, to distinguish the individual messages of said stream. In the present invention, subscriber station apparatus are preprogrammed to process cadence information.

"cablecast" ... page 12 line 23 ... to transmit programming over hard-wire.

"combined" media ... page 2 line 17 ... Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.)

"combining synch command" ... page 26 line 20 ... (Hereinafter, an instruction such as the above

signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)

command ... page 44 line 12 ... As Fig. 2E shows, [a] header and execution and meter-monitor segments constitute [one form of] a command.

A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions.

A command is always constituted of at least a header and an execution segment. With respect to any given command, its execution segment contains information that specifies the apparatus that said command addresses and specifies a particular function or functions that said command causes said apparatus to perform. (Hereinafter, functions that execution segment information causes subscriber station apparatus to perform are called "controlled functions.")

Commands often contain meter-monitor segments. ...

...

... page 47 line 11 ... Commands can address many apparatus and execute many controlled functions.

"control invoking instructions" ... page 23 line 24 ... see "invoking broadcast control"

"controlled functions" ... page 44 line 22 ... (Hereinafter, functions that execution segment information causes subscriber station apparatus to perform are called "controlled functions.")

...

... page 46 line 8 ... Examples of controlled functions include:

Load and run the contents of the information segment.

Decrypt the execution segment using decryption key G.

Decrypt the execution and meter-monitor segments using decryption key J.

Commence the video overlay combining designated in the meter-monitor segment.

Modify the execution segment to instruct URS microcomputer, 205, to commence overlay designated in meter-monitor segment, record the contents of the execution and meter-monitor segments, and transfer command to URS microcomputer, 205.

Print the contents of the information segment.

Record the contents of the execution and meter-monitor segments; transfer them to URS decryptors, 224, and execute the preprogrammed instructions that cause URS decryptors, 224, to commence decrypting with said contents as decryption key; execute preprogrammed instructions that cause URS cable converter boxes, 222, to switch to cable channel Z; execute preprogrammed instructions that cause URS matrix switches, 258, to configure its switches to transfer the input from converter boxes, 222, to decryptors, 224, and the output from decryptors, 224, to microcomputers, 205; modify the execution segment to instruct URS microcomputers, 205, to commence loading and executing the information received from URS decryptors, 224 via URS switches, 258.

"controller, 39" ... page 156 line 26 ... More precisely, controller, 39, of decoder, 203, and SPAM-controller, 205C, are one and the same (and are called, hereinafter, "controller, 39"). Thus the preferred embodiment of controller, 39, is configured and preprogrammed not only to control the detecting, correcting, converting, and executing of controlled functions at decoder, 203, but also to input to and execute at microcomputer, 205, the information of any given detected SPAM message that is addressed to URS microcomputers, 205.

"covert control" ... page 218 line 6 ... By themselves, the first and second features provide a technique whereby a message such as the second message of the "Wall Street Week" program can take affect at only selected stations (such as those stations preprogrammed with decryption key J) without being decrypted at said stations. (Hereinafter, this technique is called "covert control.")

"covert control-invoking value" ... page 285 line 7 ... (Hereinafter, the normal binary value of a given instance of information that invokes a preprogrammed function--such as, for example, the "100110" that is the normal value of said execute-conditional-overlay-at-205 information--is called a "standard control-invoking value", and a value that temporary replaces a standard control-invoking value in the course a covert control application-- such as "111111" in example #6--is called a "covert control-invoking value".)

"CPU" ... page 22 line 33 ... central processor unit ... also defined at page 87 line 21 as ... central processor unit

## D

"data module set" ... page 365 line 24 ... (Hereinafter, a data module that is transmitted to subscriber stations and processed by computers of said stations under control of instructions of a

program instruction set is called a "data module set,"  
"data module set of Q" ... page 366 line 18 ... (Hereinafter, the data module set generated in example #9, under control of said intermediate generation set of Q, is called the "data module set of Q".)  
"data module set of Q.1" ... page 378 line 31 ... (Hereinafter, the data module set generated at the station of Fig. 6 in example #10 is called the "data module set of Q.1", signifying that said set is one version of complete data module set information of said instance of the network transmission of Q.)  
"data module set of Q.2" ... page 380 line 33 ... [Hereinafter, the data module set generated at said second station is called the "data module set of Q.2", signifying that said set is a second version of complete data module set information of said instance of the network transmission of Q.])

## E.

end of file signals ... page 62 line 26 ... distinctive end of file signals are required to communicate the locations of the ends of information segments to subscriber station apparatus. In the present invention, each end of file signal is transmitted immediately after the end of an information segment; said signal is part of the information of the message in which said segment occurs; and said signal is located at the end of said message.

At any given time, subscriber station apparatus are preprogrammed to process only one distinct signal as an end of file signal. In order for said apparatus to distinguish an instance of said signal from all other signal information, an end of file signal must differ distinctly from all other information. Signal information, especially information transmitted in an information segment, can vary greatly in composition. Accordingly, to be distinctive, an end of file signal must be long and complex to detect.

An end of file signal consists of a particular sequence of bits of binary information. In the preferred embodiment each bit is identical to every other bit; that is, disregarding error correction information, an end of file signal consists of a sequence of "1" bits (eg. "11111111") or "0" bits (eg. "00000000"). In the preferred embodiment, end of file signals are composed of "1" bits rather than "0" bits.

see EOFs, EOFs bit and MOVE bit

EOFs ... refers to End Of File Signal ... see end of file signals

"EOFs bit" ... page 64 line 1 ... An end of file signal consists of a particular sequence of bits of binary information. In the preferred embodiment each bit is identical to every other bit; that is, disregarding error correction information, an end of file signal consists of a sequence of "1" bits (eg. "11111111") or "0" bits (eg. "00000000"). In the preferred embodiment, end of file signals are composed of "1" bits rather than "0" bits. Zero is a value that occurs frequently in data and in mathematics, and however many bits may occur in a binary data word that consists of a series of "0" bits, the numeric value of said word remains zero.

Numeric values that are represented in binary form by a sequence of "1" bits, especially a sequence that is long, occur in data and mathematics far less frequently than zero. Thus the preferred composition bit is "1" because the chance of data being joined in a given signal in such a way that two or more instance of information combine inadvertently and create the appearance of an end of file signal is far smaller if the preferred bit is "1" than if it is "0". (Hereinafter, the preferred binary end of file signal composition bit, "1", is called an "EOFS bit," and for reasons that are explained below, the alternate binary bit, "0", is called a "MOVE bit.")

"EOFS Complete Flag" ... page 69 line 10 ... see EOFS valve components

"EOFS Empty Flag" ... page 69 line 10 ... see EOFS valve components

"EOFS Standard Length Location" ... page 69 line 10 ... see EOFS valve components

"EOFS Standard Word Location" ... page 69 line 10 ... see EOFS valve components

"EOFS valve" ... page 65 line 19 ... an apparatus, called an "EOFS valve," that detects end of file signals

EOFS valve components ... page 69 line 10 ... In the present invention, any microprocessor, buffer/comparator, or buffer can be adapted and preprogrammed to detect end of file signals. At any given SPAM apparatus that is so adapted and preprogrammed, particular dedicated capacity exists for said detecting. Said capacity includes standard register memory or RAM capacity, well known in the art, including three particular memory locations for comparison purposes, one particular memory location to serve as a counter, and three so-called "flag bit" locations to hold particular true/false information. (Hereinafter, said three particular memory locations, said one particular memory location, and said three flag bit locations are called the "EOFS Word Evaluation Location," "EOFS Standard Word Location," and "EOFS Standard Length Location"; the "EOFS WORD Counter"; and the "EOFS WORD Flag," "EOFS Empty Flag," and "EOFS Complete Flag" all respectively.)

"EOFS WORD" ... page 70 line 12 ... (Hereinafter, one signal word of EOFS bits is called an "EOFS WORD.")

"EOFS WORD Counter" ... page 69 line 10 ... see EOFS valve components

"EOFS Word Evaluation Location" ... page 69 line 10 ... see EOFS valve components

"EOFS WORD Flag" ... page 69 line 10 ... see EOFS valve components

"EPROM" ... page 33 line 17 ... erasable programmable ROM [or other forms of programmable nonvolatile memory]

execution segment ... page 45 line 22 ... Execution segment information includes the subscriber station apparatus that the command of said segment addresses and the controlled functions said apparatus is to perform. ("ITS" refers, hereinafter, to intermediate transmission station apparatus, and "URS" refers to ultimate receiver station apparatus.) [Some] examples of addressed apparatus include:

ITS signal processors (in 71 in Fig. 6),  
ITS controller/computers (73 in Fig. 6),  
URS signal processors (200 in Fig. 7),  
URS microcomputers (205 in Fig. 7),  
URS printers (221 in Fig. 7), and  
URS utilities meters (262 in Fig. 7).

... page 47 line 16 ... Execution segment information operates by invoking preprogrammed operating instructions that exist at each subscriber station apparatus that is addressed. ... [see controlled function]

For each appropriate addressed apparatus and controlled function combination a unique execution segment binary information value is assigned. ...

For any given command, the execution segment information of said command invokes, at each relevant subscriber station apparatus, the preprogrammed operating instructions uniquely associated with its particular binary value in particular comparing and matching fashions that are described [extensively.]

The determination of appropriate addressed apparatus and controlled function combinations takes into account the facts that different apparatus, at any given subscriber station, can be preprogrammed to interpret any given instance of execution segment information differently and that subscriber station apparatus can be preprogrammed to automatically alter execution segment information. ...

...

... page 49 line 16 ... In the preferred embodiment, at any given time the number of binary information bits in any given instance of execution segment information is a particular constant number. [see "X."]

## F

"field" ... page 50 line 28 ... see "meter-monitor field."

first combining synch command ... page 89 line 8 ... Each example focuses on the processing of the three signal messages of the Fig. 1C combining. The information of said messages include three combining synch commands and one program instruction set.

The first message is of the information associated with the first combining synch



command. [See page 23 line 35 through page 24 line 16 of the specification as well as "combining synch command" above.] Said first command has a "01" header, an execution segment, and a meter-monitor segment of six fields. Said command is followed by an information segment that contains said program instruction set, and said information segment is followed by an end of file signal. Said first command addresses URS microcomputers, 205, and causes said computers, 205, to load and run the program instruction set transmitted in the information segment. Each meter-monitor segment field of said command contains information that identifies one of the following:

- . the origin of said "Wall Street Week" transmission,
- . the subject matter of said "Wall Street Week" program,
- . the program unit of said program,
- . the day of said transmission within a particular one hundred year period,
- . the supplier of the program instruction set in the information segment following said first combining synch command, and
- . the format of said meter-monitor segment information.

## G

"guide commands ... page 267 line 26 ... All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) By contrast, the 1st-, 2nd-, and 3rd-old-program-message (#5) messages, the 2nd-new-program-message (#5), and the 1st-old-radio-program- message (#5) inform no station control apparatus of new programming transmissions because said commands are addressed to no apparatus; the execution segment of each is the aforementioned pseudo-command. (Hereinafter, each said signal is called a "transparent command" because no subscriber station control apparatus "sees" said signal.)

## H

"H" ... page 95 line 30 ... a particular preprogrammed constant number of the first converted bits of said binary information. Said constant number is the number of bits in a SPAM command header. (Hereinafter, said constant number is called "H".)

"H+X" ... page 127 line 13 ... At any given time, any given instance of "10" header message command information is of one constant binary length--the aforementioned header+exec constant length. (Hereinafter, said length is called "H+X" and is the sum of H plus X.)

"H+X+L" ... page 110 line 16 ... a particular preprogrammed constant number that is the sum of H plus X plus L to the x-bits information at said SPAM-length-info memory. (Hereinafter, said constant is called "H+X+L".)

header ... page 45 line 4 ... In simple preferred embodiments, at any given time the number of binary information bits in any given instance of header information is a particular constant number. In other words, every header contains the same number of bits. In the simplest preferred embodiment, said constant number is two, all headers consist of two bits binary information, and commands are identified by one of three binary headers:

10 - a command with an execution segment alone;

00 - a command with execution and meter-monitor segments; and

01 - a command with execution and meter-monitor segments that is followed by an information segment.

... page 54 line 12 ... In the simplest preferred embodiment, a fourth type of header is:

11 - an additional information segment transmission following a "01" header command and one or more information segments which additional segment is addressed to the same apparatus and invokes the same controlled functions as said "01" command.

## I

information segment ... page 53 line 33 ... Information segments follow commands and can be of any length. Program instruction sets, intermediate generation sets, other computer program information, and data (all of which are organized in a fashion or fashions well known in the art) are transmitted in information segments. An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art. Commands can execute such program information and cause compiling prior to execution.

"intermediate generation sets" ... page 42 line 8 ... (Hereinafter, instances of computer program information that cause intermediate transmission station apparatus to generate program instruction set information and/or command information are called "intermediate generation sets.") ... see also "program instruction set" ... "intermediate generation set" is also defined at page 356 line 13 as ... (Hereinafter, an instance of computer program instructions that cause a computer, at an intermediate transmission station, to generate information of a program instruction set is called an "intermediate generation set.")

"intermediate generation set of Q" ... page 359 line 9 ... (Hereinafter, the intermediate generation set that causes any given intermediate transmission station to generate a program instruction set of an instance of the transmission of the programming of program unit Q is called the "intermediate generation set of Q".)

"intermediate transmission stations" ... page 40 line 33 ... (Hereinafter, ... stations that receive and retransmit broadcast transmissions are called "intermediate transmission stations", ...

"interval," as in "interval Q" of unit Q ... page 355 line 26 ... When the aforementioned remote distribution station inputs information to computer, 73, via network, 98, regarding unit Q, said distribution station inputs information that Q is particular combined medium programming and instructs computer, 73, to commence particular program instruction set generation in a particular fashion at a particular time interval prior to the scheduled playing of Q. (Hereinafter, a particular instance of such a time period is called "interval," as in "interval Q" of unit Q.)

"invoking broadcast control" ... page 23 line 25 ... Operating in said preprogrammed fashion under control of said first set of instructions, microcomputer, 205, reaches a stage at which the subscriber can input information only under control of signals embedded in the broadcast transmission and can reassume control of microcomputer, 205, ... only by executing a system reset (or so-called "warm boot") which on an IBM PC is accomplished by ... (Hereinafter, this first set of instructions is called the "control invoking instructions," and the associated steps are called "invoking broadcast control.")

"ITS" ... page 45 line 25 ... refers to intermediate transmission station apparatus.

J

K

L

"L" ... page 103 line 4 ... a third preprogrammed constant number of next bits and record said bits at particular memory. Said third constant number is the particular number of bits in an

instance of SPAM meter-monitor format field length token information. (Hereinafter, said third constant number is called "L".)

"length token" ... page 52 line 5 ... each instance of a meter-monitor segment includes a format field that contains information that specifies the particular format of the meter-monitor segment of said instance. Within said field is a particular group of binary information bits (hereinafter, the "length token") that identifies the number of bits in a meter-monitor segment of said format. Each alternate length token has a unique binary information code. The number of information bits in each instance of a length token is the smallest number of bits capable of representing the binary value of the total number of meter-monitor segment bit length alternatives. And the unique code of each different alternative is within the range of binary numbers thus defined.

...

... page 53 line 20 ... In the preferred embodiment, the bits of the length token are the first bits in each meter-monitor segment. ...

## M

"message" ... page 59 line 24 ... All of the information transmitted with a given header is called a "message." Each header begins a message, and each message begins with a header. More specifically, a message consists of all the SPAM information, transmitted in a given transmission, from the first bit of one header to the last bit transmitted before the first bit of the next header.

A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.

"meter command" ... page 48 line 33 ... The preferred embodiment includes ... one command that is addressed to URS signal processors, 200, (hereinafter, the "meter command") but does not instruct said processors, 200, to perform any controlled function. [This command is ] always transmitted with meter-monitor segment data that receiver station apparatus automatically process and record. By transmitting ... meter command signals, transmission stations cause receiver station apparatus to record meter-monitor segment information without executing controlled functions. ... The meter command causes apparatus such as controller, 12, of Fig. 2D to transmit meter information to buffer/comparator, 14, without performing any controlled function.

"meter-monitor field" ... page 50 line 28 ... For each category of [meter information and/or monitor] information, a series of binary bits (hereinafter, a "field" or "meter-monitor field") exists in the meter-monitor segment to contain the [category] information.

meter-monitor segments ... page 44 line 26 ... contain meter information and/or monitor information, and the information of said segments causes subscriber station signal processor systems to assemble, record, and transmit meter records to remote billing stations and monitor records to remote ratings stations in fashions that are described [in many places of the disclosure, especially examples #3, #4 and #5.

...

... page 49 line 27 ... Examples of categories of [meter information and/or monitor] information include:

- meter instructions that instruct subscriber station meter apparatus to record particular meter-monitor segment information and maintain meter records of said information;

- origins of transmissions (eg., network source stations, broadcast stations, cable head end stations);

- dates and times;

- unique identifier codes for each program unit (including commercials);

- codes that identify uniquely each combining in a given combined medium program unit; codes that identify the subject matter of a program unit;

- unique codes for programming (other than programming identified by program unit codes) whose use obligates users to make payments (eg., royalties and residuals); and

- unique codes that identify the sources and suppliers of computer data.

For each category of information, a series of binary bits (hereinafter, a "field" or "meter-monitor field") exists in the meter-monitor segment to contain the information. In any given category such as origins of transmissions, each distinct item such as each network source, broadcast, or cable head end station has a unique binary information code. In the preferred embodiment, the number of information bits in that category's meter-monitor field is the smallest number of bits capable of representing the binary value of the total number of distinct items. And the information code of each distinct item is within the range of binary numbers thus defined. In the preferred embodiment, date and time fields have sixteen bits.

Few commands require meter-monitor information of every information category. Often commands require no more than the identification codes of a specific combined medium program unit and of a specific combined medium combining within said program unit.

Because the amount of information in meter-monitor segments varies from command

to command, in the preferred embodiment more than one format exists at any given time for meter-monitor segment information. ...

Because the number of categories of meter-monitor information varies from one command to the next, the length of meter-monitor segments varies. ...

In the preferred embodiment, each instance of a meter-monitor segment includes a format field that contains information that specifies the particular format of the meter-monitor segment of said instance. Within said field is a particular group of binary information bits (hereinafter, the "length token") that identifies the number of bits in a meter-monitor segment of said format. ...

In the preferred embodiment, each distinct meter-monitor segment format (including each distinct field format) also has a unique binary information code. ...

...

In the preferred embodiment, the bits of the length token are the first bits in each meter-monitor segment. ...

"MMS" ... page 104 line 7 ... (Hereinafter, the exact number of bits in any given meter-monitor segment is called, "MMS".)

"MMS-L" ... page 103 line 29 ... (Hereinafter, the number of the particular selected bit-length-number alternative associated with any given length token is called "MMS-L" to signify that said number is L bits less than the number bits in the meter-monitor segment in which said length token occurs.)

"MOVE bit" ... page 64 line 1 ... see "EOFS bit"

## N

"normal transmission location" ... page 86 line 12 ... (Hereinafter, the preferred normal location for transmitting signals in any given communication medium is called, the "normal transmission location".)

"null outputs" ... page 159 line 10 ... Among such other outputs is one or more (hereinafter called, "null outputs") with capacity for accepting binary information and merely recording said information at particular memory associated with matrix switch, 39I, thereby overwriting and obliterating information previously recorded at said memory. The purpose of such a null output is to provide means whereby said switch can automatically cause information of any selected SPAM message to be discarded rather than transferred to addressed apparatus.

## O

"original transmission stations" ... page 40 line 31 ... (Hereinafter, stations that originate broadcast

transmissions are called "original transmission stations," ...

**P**

"padding bits" ... page 55 line 22 ... particular bits are added at the end of any command that is not already a multiple of the particular signal word bit length that applies in signal processor system communications at the subscriber stations to which said transmission is transmitted. (Hereinafter, said bits are called "padding bits.") Padding bits communicate no command information nor are padding bits part of any information segment. The sole purpose of padding bits is to render the information of any given SPAM command into a bit length that is, by itself, complete for signal processor system communication. Padding bits are added to command information prior to the transmission of said information at said station, and all subscriber station apparatus are preprogrammed to process padding bits. The particular number of padding bits that are added to any given command is the smallest number of bits required to render the bit length of said command into a multiple of said signal word bit length.

"pre-transmission evaluation" ... page 65 line 29 ... To prevent such erroneous processing, in the preferred embodiment, after the initial generation of any given instance of SPAM message information (not including end of file signal information) and before the embedding and transmitting of said instance, said information is transmitted through an apparatus, called an "EOFS valve," that detects end of file signals and is described below. If said valve detects in said information particular information that constitutes an end of file signal, before being embedded and transmitted, the binary information of said instance is rewritten, in a fashion well known in the art that may be manual, to cause substantively the same information processing at subscriber stations without containing an instance of information that is identical to the information of an end of file signal. (Hereinafter, such pre-transmission processing of a message is called a "pre-transmission evaluation.")

"program instruction set" ... page 24 line 16 ... a ... set of [processing] instructions [conveyed in the information segment of a SPAM message] that is loaded and run [at receiver station (including ITS) computing apparatus] ... [at page 42 line 2, the meaning of "program instruction sets" is further defined as ->] (Hereinafter, instances of computer program information that cause ultimate receiver station apparatus to generate and display user specific information are called "program instruction sets.") ... [see also "intermediate generation set"]

"program instruction set of Q" ... page 365 line 18 ... (Hereinafter, the program instruction set generated in example #9, under control of said intermediate generation set of Q, is called the "program instruction set of Q".)

"program instruction set of Q.1" ... page 378 line 23 ... (Hereinafter, the program instruction set generated at the station of Fig. 6 in example #10 is called the "program instruction set of

Q.1", signifying that said set is one version of complete program instruction set information of said instance of the network transmission of Q.)

"program instruction set of Q.2" ... page 380 line 20 ... [Hereinafter, the program instruction set generated at said second station is called the "program instruction set of Q.2", signifying that said set is a second version of complete program instruction set information of said instance of the network transmission of Q.]

"program originating studio" ... page 20 line 29 ... (Hereinafter, a studio or station that originates the broadcast transmission of programming is called the "program originating studio.")

"program unit identification code" ... page 90 line 1 ... (Hereinafter, meter-monitor information that identifies the program unit of a given program may also be called the "program unit identification code".)

"programming" ... page 11 line 7 ... The term "programming" refers to everything that is transmitted electronically to entertain, instruct or inform, including television, radio, broadcast print, and computer programming as well as combined medium programming.

"pseudo command" ... page 48 line 31 ... The preferred embodiment includes one appropriate command (hereinafter called the "pseudo command") that is addressed to no apparatus ... [This command is] always transmitted with meter-monitor segment data that receiver station apparatus automatically process and record. By transmitting pseudo command ... signals, transmission stations cause receiver station apparatus to record meter-monitor segment information without executing controlled functions. The pseudo command enables a so-called ratings service to use the same system for gathering ratings on conventional programming transmissions that it uses for combined media without causing combined media apparatus to execute controlled functions at inappropriate times (eg., combine overlays onto displays of conventional television programming).

## Q

## R

"RAM" ... page 23 line 1 ... random access memory

"revoking broadcast control." ... page 513 line 25 ... the steps associated with returning a microcomputer, 205, from broadcast control to local control are called "revoking broadcast control."

"ROM" ... page 31 line 9 ... read only memory



S

second combining synch command ... page 89 line 3 ... Each example focuses on the processing of the three signal messages of the Fig. 1C combining. The information of said messages include three combining synch commands and one program instruction set.

...  
... page 90 line 4 The second message is of the information associated with the second combining synch command. [See page 25 line 34 through page 26 line 8 of the specification as well as "combining synch command" above.] Said second command has a "00" header, an execution segment, and a meter-monitor segment of five fields and addresses URS microcomputers, 205. Said second command causes said computers, 205, to combine the Fig. 1A information of each microcomputer, 205, with the information of Fig. 1B and transmit the combined information to monitors, 202M. Each meter-monitor segment field of the second command contains information of one of the following:

- . the subject matter of said "Wall Street Week" program,
- . the program unit of said program,
- . the unique code of said overlay given said program unit information,
- . the minute of said transmission within a particular one month period, and
- . the format of said meter-monitor segment information.

segment ... page 44 line 4 ... Fig. 2E shows one example of the composition of signal information (excluding bit information required for error detection and correction). The information in Fig. 2E commences with a header which is particular binary information that synchronizes all subscriber station apparatus in the analysis of the information pattern that follows. Following said header are three segments: an execution segment, a meter-monitor segment, and an information segment. As Fig. 2E shows, the header and execution and meter-monitor segments constitute a command.

"signal processor" ... page 15 line 8 ... signal processing apparatus defined at page 15, line 8.

"signal processor alternative #1" ... page 34 line 1 ... For certain applications, one particular embodiment (hereinafter, "signal processor alternative #1") can be configured to receive only other inputs at buffer/comparator, 8, in which case said embodiment has no oscillator, 6; switch, 1; mixers, 2 and 3; or decoders, 30 or 40.

"signal processor alternative #2" ... page 34 line 6 ... For other particular applications, another

particular embodiment (hereinafter, "signal processor alternative #2") can be configured to receive only inputs at buffer/comparator, 14, in which case said embodiment has only buffer/comparator, 14; recorder, 16; clock, 18; and the control device apparatus associated with controller, 20.

"signal records" ... page 31 line 34 ... Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records")

"signal unit" ... page 14 line 26 ... (The term "signal unit" hereinafter means one complete signal instruction or information message unit. Examples of signal units are a unique code identifying a programming unit, or a unique purchase order number identifying the proper use of a programming unit, or a general instruction identifying whether a programming unit is to be retransmitted immediately or recorded for delayed transmission. The term "signal word" hereinafter means ...

"signal word" ... page 14 line 32 ... The term "signal word" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission. Examples of signal words are a string of one or more digital data bits encoded together on a single line of video or sequentially in audio. Such strings may or may not have predetermined data bits to identify the beginnings and ends of words. Signal words may contain parts of signal units, whole signal units, or groups of partial or whole signal units or combinations.)

signals ... page 40 line 17 ... The signals of the present invention are the modalities whereby stations that originate programming transmissions control the handling, generating, and displaying of programming at subscriber stations.

...

SPAM signals control and coordinate a wide variety of subscriber stations. Said stations include ... "local affiliate" broadcast stations that receive and retransmit single network transmissions; ... "cable system headends" that receive and retransmit multiple network and local broadcast station transmissions; and ... "media centers" in homes, offices, theaters, etc. where subscribers view programming.

...

... page 43 line 32 ... SPAM signals contain binary information of the sort well known in the art including bit information required for error correction using forward error correction techniques, well known in the art, in point to multi-point communications; request retransmission techniques, well known in the art, in point to point communications; and/or other error correction techniques, as appropriate.

Fig. 2E shows one example of the composition of signal information (excluding bit information required for error detection and correction). The information in Fig. 2E commences with a header which is particular binary information that synchronizes all subscriber station apparatus in the analysis of the information pattern that follows.

Following said header are three segments: an execution segment, a meter-monitor segment, and an information segment. As Fig. 2E shows, the header and execution and meter-monitor segments constitute a command.

"SPAM" ... page 40 line 21 ... (The term, "SPAM," is used, hereinafter, to refer to signal processing apparatus and methods of the present invention.)

"specified condition commands" ... page 44 line 33 ... Particular commands (called, hereinafter, "specified condition commands") always contain meter-monitor segments. Said commands cause addressed apparatus to perform controlled functions only when specified conditions exist, and meter-monitor information of said commands specifies the conditions that must exist.

"standard control-invoking value" ... page 285 line 7 ... see "covert control-invoking value"

## T

third combining synch command ... page 89 line 3 ... Each example focuses on the processing of the three signal messages of the Fig. 1C combining. The information of said messages include three combining synch commands and one program instruction set.

...  
... page 90 line 28 The third message is of the information associated with the third combining synch command. [See page 26 line 33 through page 27 line 7 of the specification as well as "combining synch command" above.] Said third command has only a "10" header and an execution segment and addresses URS microcomputers, 205. Said command causes said computers, 205, to cease combining and transmit only the received composite video transmission to monitors, 202M, and to continue processing in a predetermined fashion (which fashion may be determined by the aforementioned program instruction set).

"transparent commands ... page 267 line 34 ... All eight of said messages are commands. The 1st- and 3rd-new-program-message (#5) and the 1st-new-radio-program- message (#5) signals are addressed to microcomputer, 205. Each informs said microcomputer of new programming transmissions to which said microcomputer can tune appropriate station receiver and display apparatus in fashions described below. (Hereinafter said commands are called "guide commands" because they can guide station control apparatus to desired programming.) By contrast, the 1st-, 2nd-, and 3rd-old-program-message (#5) messages, the 2nd-new-program-message (#5), and the 1st-old-radio-program- message (#5) inform no station control apparatus of new programming transmissions because said commands are addressed to no apparatus; the execution segment of each is the aforementioned pseudo-command. (Hereinafter, each said signal is called a "transparent command" because no subscriber station control apparatus "sees" said signal.)

## U

"ultimate receiver stations" ... page 40 line 31, page 40 line 33, and page 40 line 35 ... (Hereinafter, ... stations where subscribers view programming are called "ultimate receiver stations.")

"URS" ... page 45 line 26 ... refers to ultimate receiver station apparatus.

## V

## W

"w-bits information" ... page 103 line 29 ... Said match causes SPAM-controller, 205C, to place particular preprogrammed bit-length-number information at said SPAM-length-info-@205 memory. (Said particular bit-length-number information is called, hereinafter, "w-bits information".) Said information is the precise number of bits, following the last of said L bits, that remain in the meter-monitor segment of the command associated with said length token. Said number is not a preprogrammed constant value such as H, X, and L that is the same for every SPAM command with a meter-monitor segment. Rather, said number is a variable that may differ from one SPAM meter-monitor segment to the next. More precisely, it is, for any given meter-monitor segment, a selected one of several preprogrammed bit-length-number information alternatives.

"W-token information" ... page 103 line 15 ... Automatically SPAM-controller, 205C, compares the information at said SPAM-length-info-@205 memory with preprogrammed token-comparison-@205 information and determines that said information at memory matches particular token-comparison-@205 information (which particular information is called, hereinafter, "W-token information").

"wireless" ... page 248 line 21 ... over-the-air (hereinafter, "wireless")

## X

"X" ... page 96 line 11 ... a second preprogrammed constant number of next bits and record said bits, in their order after conversion, at particular SPAM-exec register memory. Said second constant number is the particular number of bits in a SPAM execution segment. (Hereinafter, said second constant number is called "X".)

Y

Z

## MESSAGES DEFINED IN SPECIFIC EXAMPLES

### EXAMPLE #1

### EXAMPLE #2

"2nd meter information (#2)" ... page 152 line 34 ...

### EXAMPLE #3

"1st monitor information (#3)" ... page 174 line 21 ...

"2nd monitor information (#3)" ... page 190 line 14 ...

### EXAMPLE #4

"1st meter-monitor information (#4)" ... page 213 line 32 ...

"2nd meter-monitor information--second precondition failed--(#4)." ... page 238 line 16 ...

"2nd meter-monitor information (#4)." ... page 239 line 3 ...

"2nd monitor information (#4)" ... page 240 line 40 ...

### EXAMPLE #5

1st command (#5) ... page 251 line 17 ...

"1st-old-program-command (#5)" ... page 252 line 13 ...

"1st-new-program-message (#5)" ... page 253 line 1 ...

"2nd command (#5)" ... page 256 line 5 ...  
"2nd-old-program-message (#5)" ... page 256 line 27 ...  
"2nd-new-program-message (#5)" ... page 257 line 5 ...  
"3rd command (#5)." ... page 259 line 25 ...  
"3rd-old-program-message (#5)" ... page 260 line 12 ...  
"3rd-new- program-message (#5)" ... page 260 line 29 ...  
"4th command (#5)" ... page 263 line 5 ...  
"1st-old-radio-program-message (#5)" ... page 264 line 28 ...  
"1st-new-radio-program-message (#5)" ... page 265 line 9 ...

#### **EXAMPLE #6**

"1st supplementary message (#6)" ... page 281 line 35 ...  
"2nd supplementary message (#6)" ... page 281 line 35 ...

#### **EXAMPLE #7**

please-fully-enable-WSW-on-CC13-at-particular-8:30 information ... page 289 line 28 ...  
"local-cable-enabling-message (#7)" ... page 291 line 19 ...  
"1st-WSW-program-enabling-message (#7)" ... page 297 line 23 ...  
"1st- WSW-decryption-check (#7)" ... page 300 line 15 ...  
"2nd-WSW-program-enabling-message (#7)" ... page 304 line 10 ...  
"2nd-WSW-decryption-check (#7)" ... page 308 line 5 ...  
Prepare-To-Retransmit-WSW message ... page 430 line 35 ...  
Select-WSW-Program-Unit SPAM message ... page 435 line 19 ...

### **EXAMPLE #8**

"first- network-cue-to-transmit-locally message (#8)" ... page 335 line 30 ...

"first-network-cue-to-transmit-network message (#8)" ... page 335 line 35 ...

"select-A-message (#8)," the "select-B-message (#8)," the "select-C-message (#8)," and so forth up to the "select-Z- message (#8)," each message referring to the corresponding program unit: A, B, C, and so forth up to Z, respectively, and said messages are called collectively the "cue-to-select messages (#8)." ... page 342 line 14 ...

### **EXAMPLE #9**

"generate-set-information message (#9)" ... page 359 line 3 ...

"first cueing message (#9)" ... page 366 line 27 ...

"align-URS- microcomputers-205 message (#9)" .. Page 368 line 6 ...

"synch-SPAM-reception message (#9)" ... page 368 line 19 ...

"control-invoking message (#9)" ... page 368 line 30 ...

"transmit-data-module-set message (#9)" ... page 369 line 22 ...

"data-module-set message (#9)" ... page 369 line 30 ...

"transmit-and-execute-program-instruction-set message (#9)" ... page 371 line 9 ...

"program-instruction-set message (#9)" ... page 371 line 17 ...

"cease-stripping-and-embedding message (#9)" ... page 372 line 13 ...

"1st commence-outputting message (#9)" ...page 372 line 25 ...

"2nd commence-outputting message (#9)" ... page 372 line 26 ...

"3rd commence-outputting message (#9)" ... page 372 line 27 ...

"1st cease-outputting message (#9)" ... page 372 line 27 ...

"4th commence-outputting message (#9)" ... page 372 line 28 ...  
"5th commence-outputting message (#9)" ... page 372 line 29 ...  
"6th commence-outputting message (#9)" ... page 372 line 30 ...  
"2nd cease-outputting message (#9)" ... page 372 line 30 ...  
"second cueing message (#9)" ... page 373 line 5 ...  
"disband-URS- microcomputers-205 message (#9)" ... page 373 line 22 ...

#### **EXAMPLE #10**

"generate-set-information message (#10)" ... page 377 line 34 ...  
"load-set-information message (#10)" ... page 381 line 23 ...  
"align-URS-microcomputers-205 message (#10)" ... page 382 line 26 ...  
"synch- SPAM-reception message (#10)" ... page 383 line 4 ...  
"control-invoking message (#10)" ... page 383 line 13 ...  
"transmit-data-module-set message (#10)" ... page 383 line 24 ...  
"transmit-and-execute-program-instruction-set message (#10)" ... page 385 line 7 ...  
"program-instruction-set message (#10)" ... page 385 line 14 ...  
"cease-stripping-and-embedding message (#10)" ... page 387 line 9 ...  
"1st commence-outputting message (#10)" ... page 387 line 25 ...  
"2nd commence-outputting message (#10)" ... page 387 line 26 ...  
"3rd commence-outputting message (#10)" ... page 387 line 26 ...  
"1st cease-outputting message (#10)" ... page 387 line 27 ...  
"4th commence-outputting message (#10)" ... page 387 line 28 ...



"5th commence-outputting message (#10)" ... page 387 line 29 ...

"6th commence-outputting message (#10)" ... page 387 line 29 ...

"2nd cease-outputting message (#10)" ... page 387 line 30 ...

"disband-URS-microcomputers-205 message (#10)" ... page 387 line 34 ...

"local-output-cueing message (#10)" ... page 388 line 7 ...

#### **EXAMPLE #11**

first-master-cueing message (#11) ... page 545 line 32 ...

first-national-cueing message (#11) ... page 546 line 3 ...

second-master-cueing message (#11) ... page 546 line 33 ...

transmit-program-instruction-set SPAM message (#11) ... page 547 line 17 ...

local-second-cueing message (#11) ... page 552 line 12 ...

second-cueing message (#11) ... page 554 line 22 ...